

## **Amphibians of the Philippines, Part I: Checklist of the Species**

**Arvin C. Diesmos**<sup>1,†</sup>, **Jessa L. Watters**<sup>2,†</sup>, **Nicholas A. Huron**<sup>2,3</sup>, **Drew R. Davis**<sup>4</sup>,  
**Angel C. Alcala**<sup>5</sup>, **Ronald I. Crombie**<sup>6</sup>, **Leticia E. Afuang**<sup>7</sup>, **Genevieve Gee-Das**<sup>8</sup>,  
**Rogelio V. Sison**<sup>9,§</sup>, **Marites B. Sanguila**<sup>10</sup>, **Michelle L. Penrod**<sup>2</sup>, **Marie J. Labonte**<sup>2</sup>,  
**Conner S. Davey**<sup>2</sup>, **E. Austin Leone**<sup>2</sup>, **Mae L. Diesmos**<sup>11</sup>, **Emerson Y. Sy**<sup>12</sup>,  
**Luke J. Welton**<sup>13</sup>, **Rafe M. Brown**<sup>13</sup>, and **Cameron D. Siler**<sup>2,3,\*</sup>

<sup>1</sup> Herpetology Section, Zoology Division, Philippine National Museum, Rizal Park, Burgos St., Manila, Philippines; <sup>2</sup> Sam Noble Oklahoma Museum of Natural History, University of Oklahoma, 2401 Chautauqua Ave., Norman, OK 73072-7029, USA; <sup>3</sup> Department of Biology, University of Oklahoma, 730 Van Vleet Oval, Norman, OK 73019, USA; <sup>4</sup> Department of Biology, University of South Dakota, 414 East Clark St., Vermillion, SD 57069, USA; <sup>5</sup> Angelo King Center for Research and Environmental Management, Silliman University, 2F Marine Laboratory, Bantayan, Dumaguete City, Philippines; <sup>6</sup> 1489 Tunnel Rd, Santa Barbara, CA 93105, USA; <sup>7</sup> Animal Biology Division, Institute of Biological Sciences, College of Arts and Sciences, University of the Philippines Los Baños, Laguna 4031, Philippines; <sup>8</sup> Herpetofauna Research Group, Institute of Biodiversity and Environmental Conservation, Universiti Malaysia Sarawak, 94300 Kota Samarahan, Sarawak, Malaysia; <sup>9</sup> Herpetology Section, Zoology Division, National Museum of the Philippines, Padre Burgos Avenue, Ermita, 1000 Manila, Philippines; <sup>10</sup> Father Saturnino Urios University, 8600 Butuan City, Philippines; <sup>11</sup> University of Santo Tomas, Manila, Philippines; <sup>12</sup> Philippine Center for Terrestrial and Aquatic Research, 1198 Benavidez Street, Unit 1202, Sta. Cruz, Manila, Philippines; <sup>13</sup> Biodiversity Institute and Department of Ecology and Evolutionary Biology, University of Kansas, 1345 Jayhawk Blvd., Lawrence, KS 66045-7593, USA

The herpetological fauna of the Philippine Islands is high in diversity and endemism (Brown and Diesmos 2009; Brown et al. 2013; Diesmos et al. 2014), yet faces threats such as habitat modification and loss, natural catastrophes (i.e., Typhoon Haiyan), invasive species, hunting for food or the pet trade, and the spread of chytrid fungus (Sodhi et al. 2004; Diesmos et al. 2006, 2012; Rowley et al. 2010; Brown et al. 2012). New species descriptions have been steadily rising since the early 1990s due to increased sampling, an awareness of species boundaries based on phylogenetic studies, and changes in our understanding of what defines a species (Figure 1 [p. 489]; Brown et al. 2001, 2008, 2013; Diesmos et al. 2002, 2012; Diesmos and Brown 2011; Brown and Stuart 2012). Developing a complete species list for amphibians is essential for conservation planning and informed management decisions. Previous lists (Brown 2007; Diesmos and Brown 2011; Diesmos et al. 2014) were derived in part from working compendiums, developed and distributed separately by RIC and ACD; these simple lists focused on taxonomic and conservation status of the included species, respectively, but were of limited use for other purposes.

Herein we provide a comprehensive checklist of Philippine amphibian diversity, created by searching worldwide museum databases for Philippines taxa, augmented with a thorough review of recently published new species descriptions. Museum records from 33 museums were obtained either through direct contact with museum websites and personnel or through database portals such

†Authors made equal contributions to this manuscript

§Deceased

\*Corresponding author, e-mail: camsiler@ou.edu

as VertNET (<<http://vertnet.org>>) and Global Biodiversity Information Facility (GBIF, <<http://www.gbif.org>>). In total, we reviewed 43,222 specimen records.

In this checklist, information associated with each species has the following sequence: (1) the original source, (2) a non-exhaustive, representative synonymy (see also comments below), (3) the type locality as reported in the authoritative description and holotype catalog number, if known, and (4) distribution within the Philippines and identification of endemism. Distributions are given as island names only, with species considered present on each reported island. Full citations for all authoritative descriptions are provided in the Literature Cited section.

Distribution dot maps were created based on a total of 4,015 unique localities from the georeferenced museum records described above using ArcMap v.10.3.1 (Figures 2–30, 43). Due to lack of precise locality data or coordinates for some museum records, a proportion of known species occurrences may not have been included in the dot maps. Topographic maps were created in ArcMap v.10.3.1 using the digital elevation model (DEM) layers based on NASA's Shuttle Radar Topographic Mission (SRTM). The SRTM data are available for free at approximately 90 meters resolution (3 arc-second projections; Reuter et al. 2007; CIAT-CSI SRTM 2015). Representative photos of most currently recognized species have also been provided (Figures 31–42, 44).

Although every effort was made to provide detailed taxon-specific synonyms for every species, the emphasis of this study was to provide an updated documentation and concise overview of the current diversity of amphibians in the Philippines. We direct readers to additional primary sources and amphibian biodiversity information products for original species descriptions and complete synonymies: Amphibian Species of the World (<<http://research.amnh.org/vz/herpetology/amphibia/>>; Frost 2015) and AmphibiaWeb (<<http://amphibiaweb.org>>; Amphibia Web 2015).

Museum designation symbolic codes follow Sabaj Pérez (2014): British Museum of Natural History (BMNH); California Academy of Sciences (CAS); California Academy of Sciences, Stanford University (CAS-SU); Carnegie Museum (CM); Field Museum of Natural History (FMNH); Museum of Comparative Zoology, Harvard University (MCZ), Museum National d'Histoire Naturelle (MNHN), Museo Civico di Storia Naturale (MSNG), Naturhistorisches Museum (NHMW of NMW); National Museum of the Philippines (formerly Philippine National Museum; NMPH or PNM); Naturalis Biodiversity Center (RMNH); Senckenberg Forschungsinstitut und Naturmuseum (SMF); National Museum of Natural History, Smithsonian Institution (USNM); Museum für Naturkunde (ZMB).

Amphibians of the Philippines, Part II, which will include identification keys for the amphibian fauna, will be issued in 2016.

**Class Amphibia, Order Anura**  
**Family Bombinatoridae**

***Barbourula busuangensis* Taylor and Noble 1924**

*Barbourula busuangensis* Taylor and Noble 1924

Type locality and holotype specimen: Philippines, “small stream in the southern part of Busuanga [Island], the largest island of the Calamianes group” (Taylor and Noble 1924) (MCZ 14004).

Philippine distribution: Balabac, Busuanga, Culion, Palawan (Endemic).

Figures 3 and 31.

**Family Bufonidae**

***Ansonia mcgregori* (Taylor 1922)**

*Bufo mcgregori* Taylor 1922, 1944; Slevin and Leviton 1956; Van Tuijl 1995

*Ansonia muelleri* Inger 1954

*Ansonia mcgregori*, Inger 1960

Type locality and holotype specimen: Philippines, Mindanao, Zamboanga, near Pasonanka (= Pasonanca) (CAS 61839).

Philippine distribution: Mindanao (Endemic).

Figures 3 and 31.

***Ansonia muelleri* (Boulenger 1887)**

*Bufo muelleri* Boulenger 1887; Frost 1985

*Ansonia muelleri*, Inger 1954; Alcalá and Brown 1998

Type locality and holotype specimen: Philippines, Mindanao (BMNH 1947.2.20.57).

Philippine distribution: Dinagat, Mindanao (Endemic).

Figures 3 and 31.

***Ingerophrynus philippinicus* (Boulenger 1887)**

*Bufo philippinicus* Boulenger 1887; Iskandar 1998; Inger, 1999

*Bufo divergens* Mocquard 1890

*Bufo biporcatus philippinicus*, Inger 1954; Alcalá and Brown 1998

*Ingerophrynus philippinicus*, Frost, Grant, Faivovich, Bain, Haas, Haddad, de Sá, Channing, Wilkinson, Donnellan, Raxworthy, Campbell, Blotto, Moler, Drewes, Nussbaum, Lynch, and Green 2006

Type locality and holotype specimen: Philippines, Palawan, Puerta Princesa (Status and whereabouts of holotype unknown; not traced).

Philippine distribution: Balabac, Busuanga, Culion, Dumarán, Palawan (Endemic).

Figures 3 and 31.

***Pelophryne albotaeniata* Barbour 1938**

*Pelophryne albotaeniata* Barbour 1938

*Pelophryne albotaeniata albotaeniata*, Inger 1954

Type locality and holotype specimen: Philippines, Palawan, Thumb Peak (4,500 ft. elev.) (MCZ 23291).

Philippine distribution: Palawan (Endemic).

Figure 4.

***Pelophryne brevipes* (Peters 1867)***Hylaplesia brevipes* Peters 1867*Bufo brevipes*, Cope 1867; Boulenger 1882*Pelophryne brevipes*, Barbour 1938

Type locality and holotype specimen: Philippines, Mindanao, Zamboanga (NMW 16554, syntype).

Philippine distribution: Basilan, Mindanao (Endemic).

Figures 4 and 31.

***Pelophryne lighti* (Taylor 1920)***Nectophryne lighti* Taylor 1920*Pelophryne lighti*, Barbour 1938; Inger 1960*Pelophryne brevipes*, Inger 1954*Pelophryne albotaeniata lighti*, Inger 1954

Type locality and holotype specimen: Philippines, Mindanao, Agusan Province, Bunawan (E. H. Taylor Collection No. 189, destroyed).

Philippine distribution: Bohol, Leyte, Mindanao, Samar (Endemic).

Figures 4 and 31.

***Rhinella marina* (Linnaeus 1758)***Rana marina* Linnaeus 1758*Bufo brasiliensis* Laurenti 1768*Rana gigas* Walbaum 1784*Rana humeris-armata* Lacépède 1788*Rana humeris-armata*, Bonnaterre 1789*Bufo marinus* Schneider 1799; Gravenhorst 1829*Bufo aqua* Sonnini de Manoncourt and Latreille 1801*Rana brasiliensis* Shaw 1802*Bufo horridus* Daudin 1802*Bufo humeralis* Daudin 1803*Bombinator maculatus* Merrem 1820*Rana maxima* Merrem 1820*Bombinator horridus* Merrem 1820*Bufo maculiventris* Spix 1824*Bufo lazarus* Spix 1824*Bufo albicans* Spix 1824*Bufo horribilis* Weigmann 1833*Docidophryne aqua* Fitzinger 1843*Docidophryne Lazarus* Fitzinger 1861*Phrynoidis aqua* Cope 1862*Bufo marinus* var. *horribilis* Peters 1873; Lynch and Fugler 1965*Bufo marinus* var. *fluminensis* Jiménez de la Espada 1875*Bufo marinus* var. *napensis* Jiménez de la Espada 1875*Bufo pithecodactylus* Werner 1899*Bufo marinus*, Barbour and Noble 1920*Bufo marinus marinus*, Schmidt 1932*Bufo angustipes* Taylor and Smith 1945*Bufo pythecodactylus* Rivero 1961

*Chaunus marinus*, Frost, Grant, Faivovich, Bain, Haas, Haddad, de Sá, Channing, Wilkinson, Donnellan, Raxworthy, Campbell, Blotto, Moler, Drewes, Nussbaum, Lynch, and Green 2006

*Rhinella marina*, Chaparro, Pramuk, and Gluesenkamp 2007

*Rhinella marinus*, Pramuk, Robertson, Sites, and Noonan 2008

Type locality and holotype specimen: America (Status and whereabouts of holotype unknown; not traced).

Philippine distribution: Alabat, Bohol, Calayan, Catanduanes, Cebu, Cocomo, Dinagat, Gigantes Norte, Leyte, Lubang, Luzon, Marinduque, Masbate, Mindanao, Mindoro, Negros, Palawan, Panay, Polillo, Romblon Island Group, Sicogon, Samar, Ticao, Verde (Introduced; Diesmos et al. 2006).

Figures 4 and 31.

### Family Ceratobatrachidae

#### *Alcalus mariae* (Inger 1954)

*Micrixalus mariae* Inger 1954

*Ingerana* (*Ingerana*) *mariae*, Dubois 1987 “1986”

*Taylorana mariae*, Fei, Ye, and Jiang 2010

*Alcalus mariae*, Brown, Siler, Richards, Diesmos, and Cannatella 2015

Type locality and holotype specimen: Philippines, Palawan, Mantalingajan Range, south slope of Mount Balabag (FMNH 51360).

Philippine distribution: Palawan (Endemic).

Figures 12 and 35.

#### *Platymantis banahao* Brown, Alcalá, Diesmos, and Alcalá 1997

*Platymantis banahao* Brown, Alcalá, Diesmos, and Alcalá 1997

*Platymantis* (*Lahatnanguri*) *banahao*, Brown, Siler, Richards, Diesmos, and Cannatella 2015

Type locality and holotype specimen: Philippines, Luzon, Quezon Province, NE slope of Mt. Banahao (1,100 m elev.) (CAS 201208).

Philippine distribution: Luzon (Endemic).

Figures 5 and 32.

#### *Platymantis bayani* Siler, Alcalá, Diesmos, and Brown 2009

*Platymantis bayani* Siler, Alcalá, Diesmos, and Brown 2009

*Platymantis* (*Tahananpuno*) *banahao*, Brown, Siler, Richards, Diesmos, and Cannatella 2015

Type locality and holotype specimen: Philippines, Samar, Eastern Samar Province, Municipality of Taft, Barangay San Rafael, Taft Forest (11.80255°N, 125.29276°E; WGS84; 140 m elev.) (PNM 9501).

Philippine distribution: Samar (Endemic).

Figures 5 and 32.

#### *Platymantis biak* Siler, Diesmos, Likem, Diesmos, and Brown 2010

*Platymantis biak* Siler, Diesmos, Linkem, Diesmos, and Brown 2010

*Platymantis* (*Lahatnanguri*) *biak*, Brown, Siler, Richards, Diesmos, and Cannatella 2015

Type locality and holotype specimen: Philippines, Luzon, Bulacan Province, Municipality of San

Miguel and Doña Remedios Trinidad, Barangay Biak na Bato (15.1084°N, 121.0724°E; 190 m elev.) (PNM 9679).

Philippine distribution: Luzon (Endemic).

Figure 5.

***Platymantis cagayanensis* Brown, Alcala, and Diesmos 1999**

*Platymantis cagayanensis* Brown, Alcala, and Diesmos 1999

*Platymantis (Lupacolus) cagayanensis*, Brown, Siler, Richards, Diesmos, and Cannatella 2015

Type locality and holotype specimen: Philippines, Luzon, Cagayan Province, Central Cordillera, Santa Praxedes Town, Taggat Forest Reserve (50–100 m elev.) (PNM 6691).

Philippine distribution: Luzon, Palaui (Endemic).

Figures 5 and 32.

***Platymantis cornutus* (Taylor 1922)**

*Cornufer cornutus* Taylor 1922

*Platymantis cornutus*, Zweifel 1967

*Platymantis cornuta*, Günther 1999

*Platymantis (Lahatnanguri) cornutus*, Brown, Siler, Richards, Diesmos, and Cannatella 2015

Type locality and holotype specimen: Philippines, Luzon, Mountain Province, Kalinga, Balbalan (CAS 61476).

Philippine distribution: Luzon (Endemic).

Figures 6 and 32.

***Platymantis corrugatus* (Duméril 1853)**

*Hylodes corrugatus* Duméril 1853

*Platymantis plicifera* Günther 1858

*Hylodes (Halophilus) corrugatus*, Cope 1862

*Halophila (Platymantis) plicifera*, Peters 1863

*Platymantis corrugata*, Boulenger 1918; Günther 1999

*Rana (Platymantis) rugata* Van Kampen 1923

*Platymantis corrugatus corrugatus*, Loveridge 1948

*Platymantis (Tagomukhus) corrugatus*, Brown, Siler, Richards, Diesmos, and Cannatella 2015

Type locality and holotype specimen: Java (in error, according to Inger 1954) (MNHNP 4884).

Philippine distribution: Bohol, Cagraray, Camiguin Sur, Camotes Island Group, Catanduanes, Cebu, Dinagat, Leyte, Luzon, Mindanao, Mindoro, Negros, Panay, Polillo, Ponson, Poro, Rapu-Rapu, Samar, Sicogon, Siquijor (Endemic).

Figures 6 and 32.

***Platymantis diesmosi* Brown and Gonzalez 2007**

*Platymantis diesmosi* Brown and Gonzalez 2007

*Platymantis (Tahananpuno) diesmosi*, Brown, Siler, Richards, Diesmos, and Cannatella 2015

Type locality and holotype specimen: Philippines, Luzon, Albay Province, Municipality of Tiwi, Barangay Banshaw, Sitio Purok 7, area known locally as ‘Tamagong,’ NW slope of Mt. (13.436667°N, 123.59°E; WGS84; 950 m elev.) (PNM 8499).

Philippine distribution: Luzon (Endemic).  
 Figures 6 and 32.

***Platymantis dorsalis* (Duméril 1853)**

*Cornufer dorsalis* Duméril 1853

*Hylodes (Halophilus) dorsalis*, Cope 1862

*Halophila jagorii* Peters 1863

*Halophila platydactyla* Günther 1864

*Platymantis meyeri* Günther 1873; Boulenger 1918

*Cornufer jagorii*, Boulenger 1882

*Cornufer meyeri*, Boulenger 1882; Inger 1954

*Cornufer laticeps* Taylor 1920

*Rana (Platymantis) dorsalis*, Guibé 1950 “1948”

*Cornufer dorsalis*, Brown and Inger 1964; Brown 1965

*Platymantis dorsalis*, Zweifel 1967; Brown and Alcala 1970a, b

*Platymantis (Lupacolus) dorsalis*, Brown, Siler, Richards, Diesmos, and Cannatella 2015

Type locality and holotype specimen: Java (in error, according to Barbour 1923) (MNHNP 4880).  
 Philippine distribution: Alabat, Calagna-an, Cagraray, Catanduanes, Cebu, Danjugan, Leyte, Lubang, Luzon, Marinduque, Masbate, Negros, Pan de Azucar, Panay, Polillo, Rapu-Rapu, Sicogon, Ticao (Endemic).

Figures 6 and 32.

***Platymantis guentheri* (Boulenger 1882)**

*Cornufer guentheri* Boulenger 1882; Inger 1954

*Cornufer worcesteri* Stejneger 1905

*Cornufer ingeri* Brown and Alcala 1963

*Platymantis ingeri*, Zweifel 1967

*Platymantis guentheri*, Zweifel 1967

*Platymantis (Tahananpuno) guentheri*, Brown, Siler, Richards, Diesmos, and Cannatella 2015

Type locality and holotype specimen: Philippines, Dinagat (BMNH 1947.2.31–34).

Philippine distribution: Biliran, Bohol, Dinagat, Leyte, Mindanao, Samar (Endemic).

Figures 7 and 33.

***Platymantis hazelae* (Taylor 1920)**

*Philautus hazelae* Taylor 1920

*Cornufer rivularis* Taylor 1922

*Rhacophorus (Philautus) hazelae*, Ahl 1931

*Platymantis hazelae*, Inger 1954; Zweifel 1967; Brown and Alcala 1970a, b

*Cornufer hazelae*, Inger 1954; Brown 1965

*Platymantis (Tirahanulap) hazelae*, Brown, Siler, Richards, Diesmos, and Cannatella 2015

Type locality and holotype specimen: Philippines, central northern Negros, Canlaon Volcano (ca. 1,000 m elev.) (CM 3427).

Philippine distribution: Negros, Masbate (Endemic).

Figures 7 and 33.

***Platymantis indepressus* Brown, Alcala, and Diesmos 1999***Platymantis indepressus* Brown, Alcala, and Diesmos 1999*Platymantis indepressa*, Günther 1999*Platymantis (Lupacolus) indepressus*, Brown, Siler, Richards, Diesmos, and Cannatella 2015

Type locality and holotype specimen: Philippines, Luzon, Mt. Banahao (1,080 m elev.) (CAS 201196)

Philippine distribution: Luzon (Endemic).

Figure 7.

***Platymantis insulatus* Brown and Alcala 1970***Platymantis insulatus* Brown and Alcala 1970a, b*Platymantis insulata*, Günther 1999*Platymantis (Lahatnanguri) insulatus*, Brown, Siler, Richards, Diesmos, and Cannatella 2015

Type locality and holotype specimen: Philippines, Gigante Sur Island (CAS 117441).

Philippine distribution: Gigante Norte, Gigante Sur (Endemic).

Figures 7 and 33.

***Platymantis isarog* Brown, Brown, Alcala, and Frost 1997***Platymantis isarog* Brown, Brown, Alcala, and Frost 1997*Platymantis reticulates* Brown, Brown, and Alcala 1997*Platymantis (Tirahanulap) isarog*, Brown, Siler, Richards, Diesmos, and Cannatella 2015

Type locality and holotype specimen: Philippines, southeastern Luzon, Camarines Peninsula, Mt. Isarog (1,200–1,300 m elev.) (CAS 197218).

Philippine distribution: Luzon (Endemic).

Figures 8 and 33.

***Platymantis lawtoni* Brown and Alcala 1974***Platymantis lawtoni* Brown and Alcala 1974*Platymantis (Tirahanulap) lawtoni*, Brown, Siler, Richards, Diesmos, and Cannatella 2015

Type locality and holotype specimen: Philippines, Tablas, Dubduban (ca. 800 ft. elev.) (CAS 135732)

Philippine distribution: Romblon Island Group (Endemic).

Figures 8 and 33.

***Platymantis levigatus* Brown and Alcala 1974***Platymantis levigatus* Brown and Alcala 1974*Platymantis levigata*, Günther 1999*Platymantis (Lahatnanguri) levigatus*, Brown, Siler, Richards, Diesmos, and Cannatella 2015

Type locality and holotype specimen: Philippines, Tablas, San Agustin, Dubduban (ca. 650 ft. elev.) (CAS 136097).

Philippine distribution: Romblon Island Group (Endemic).

Figures 8 and 33.



***Platymantis luzonensis* Brown, Alcala, Diesmos, and Alcala 1997**

*Cornifer guentheri*, Inger 1954

*Platymantis guentheri*, Brown and Alcala 1970

*Platymantis luzonensis* Brown, Alcala, Diesmos, and Alcala 1997

*Platymantis (Tahananpuno) luzonensis*, Brown, Siler, Richards, Diesmos, and Cannatella 2015

Type locality and holotype specimen: Philippines, Luzon, Laguna Province, Mt. Makiling (ca. 600 m elev.) (CAS 196368).

Philippine distribution: Luzon, Polillo (Endemic).

Figures 8 and 33.

***Platymantis mimulus* Brown, Alcala, and Diesmos 1999**

*Platymantis mimulus* Brown, Alcala, and Diesmos 1997

*Platymantis mimula*, Günther 1999

*Platymantis (Lupacolus) mimulus*, Brown, Siler, Richards, Diesmos, and Cannatella 2015

Type locality and holotype specimen: Philippines, Luzon, Laguna Province, Los Banos, Mt. Maquiling (ca. 400 m elev.) (CAS 136097).

Philippine distribution: Luzon (Endemic).

Figure 9.

***Platymantis montanus* (Taylor 1922)**

*Cornifer montanus* Taylor 1922

*Platymantis montanus*, Zweifel 1967

*Platymantis montana*, Günther 1999

*Platymantis (Tirahanulap) montanus*, Brown, Siler, Richards, Diesmos, and Cannatella 2015

Type locality and holotype specimen: Philippines, Luzon, Laguna Province, Mount Banahao (ca. 1,500 m elev.) (CAS 61179).

Philippine distribution: Luzon (Endemic).

Figures 9 and 33.

***Platymantis naomii* Alcala, Brown, and Diesmos 1998**

*Platymantis naomii* Alcala, Brown, and Diesmos 1998

*Platymantis naomiae*, Iskandar and Colijn 2000

*Platymantis (Lupacolus) naomii*, Brown, Siler, Richards, Diesmos, and Cannatella 2015

Type locality and holotype specimen: Philippines, Luzon, southeast slope of Mt. Banahao on Tayabas side (ca. 1,400 m elev.) (CAS 204746).

Philippine distribution: Luzon (Endemic).

Figure 9.

***Platymantis negrosensis* Brown, Alcala, Diesmos, and Alcala 1997**

*Platymantis negrosensis* Brown, Alcala, Diesmos, and Alcala 1997

*Platymantis (Tahananpuno) negrosensis*, Brown, Siler, Richards, Diesmos, and Cannatella 2015

Type locality and holotype specimen: Philippines, Negros, Negros Oriental Province, Lake Balinsasayao (CAS 137416).

Philippine distribution: Negros, Panay (Endemic).

Figures 9 and 34.

***Platymantis paengi* Siler, Linkem, Diesmos, and Alcalá 2007***Platymantis paengi* Siler, Linkem, Diesmos, and Alcalá 2007*Platymantis (Lupacolus) paengi*, Brown, Siler, Richards, Diesmos, and Cannatella 2015

Type locality and holotype specimen: Philippines, Panay, Antique Province, Municipality of Pandan, Barangay Duyong, in an area known locally as ‘Mt. Lihidan’ (11.41465°N, 122.10465°E; WGS84; 180 m elev.) (PNM 9239).

Philippine distribution: Panay (Endemic).

Figures 10 and 34.

***Platymantis panayensis* Brown, Brown, and Alcalá 1997***Platymantis panayensis* Brown, Brown, and Alcalá 1997*Platymantis (Tirahanulap) panayensis*, Brown, Siler, Richards, Diesmos, and Cannatella 2015

Type locality and holotype specimen: Philippines, Panay, Aklan Province, Libacao, northwest ridge approach to Mt. Madja-as (ca. 1,410 m elev.) (PNM 2495).

Philippine distribution: Panay (Endemic).

Figure 10.

***Platymantis polillensis* (Taylor 1922)***Philautus polillensis* Taylor 1922*Rhacophorus polillensis*, Ahl 1931*Cornufer polillensis*, Inger 1954*Platymantis polillensis*, Zweifel 1967*Platymantis polilloensis*, Alcalá 1986; Brown, Brown, and Alcalá 1997*Platymantis (Tirahanulap) polillensis*, Brown, Siler, Richards, Diesmos, and Cannatella 2015

Type locality and holotype specimen: Philippines, Polillo, near the southern end of island (CAS 62250).

Philippine distribution: Luzon, Polillo (Endemic).

Figures 10 and 34.

***Platymantis pseudodorsalis* Brown, Alcalá, and Diesmos 1999***Platymantis pseudodorsalis* Brown, Alcalá, and Diesmos 1999*Platymantis (Lupacolus) pseudodorsalis*, Brown, Siler, Richards, Diesmos, and Cannatella 2015

Type locality and holotype specimen: Philippines, Luzon, Mt. Banahao (PNM 6689).

Philippine distribution: Luzon (Endemic).

Figure 10.

***Platymantis pygmaeus* Alcalá, Brown, and Diesmos 1998***Platymantis pygmaeus* Alcalá, Brown, and Diesmos 1998*Platymantis pygmaea*, Günther 1999*Platymantis (Lahatnanguri) pygmaeus*, Brown, Siler, Richards, Diesmos, and Cannatella 2015

Type locality and holotype specimen: Philippines, Luzon, Isabela Province, Municipality of Palanan, Barangay Didian, Sitio Natapdukan, Northern Sierra Madre Natural Park (16.9655°N, 122.4038°E; WGS84; 55–65 m elev.) (PNM 6255).

Philippine distribution: Luzon, Sibuyan (Endemic).  
 Figures 11 and 34.

***Platymantis quezoni* Brown, De Layola, Lorenzo, Diesmos, and Diesmos 2015**

*Platymantis (Lupacolus) quezoni* Brown, De Layola, Lorenzo, Diesmos, and Diesmos 2015

*Platymantis* “sp. 27”, Brown, Siler, Richards, Diesmos, and Cannatella, 2015

Type locality and holotype specimen: Philippines, Luzon, Quezon Province, Municipality of Atimonan, Barangay Malinao Ilaya, Quezon Protected Landscape (13.989°N, 121.818°E; WGS84; 275 m elev.) (PNM 9817, formerly KU 339542).

Philippine distribution: Luzon (Endemic).  
 Figures 43 and 44.

***Platymantis rabori* Brown, Alcala, Diesmos, and Alcala 1997**

*Platymantis rabori* Brown, Alcala, Diesmos, and Alcala 1997

*Platymantis (Tahananpuno) rabori*, Brown, Siler, Richards, Diesmos, and Cannatella 2015

Type locality and holotype specimen: Philippines, Bohol, Sierra Bullones, Cantaub (CAS 136889).  
 Philippine distribution: Bohol, Leyte, Mindanao, Samar (Endemic).

Figures 11 and 34.

***Platymantis sierramadrensis* Brown, Alcala, Ong, and Diesmos 1999**

*Platymantis sierramadrensis* Brown, Alcala, Ong, and Diesmos 1999

*Platymantis (Tirahanulap) sierramadrensis*, Brown, Siler, Richards, Diesmos, and Cannatella 2015

Type locality and holotype specimen: Philippines, Luzon, Quezon Province, Municipality of General Nakar, Barangay Umiray, at Sitio Mapidjas (PNM 6465).

Philippine distribution: Luzon (Endemic).  
 Figures 11 and 34.

***Platymantis spelaeus* Brown and Alcala 1982**

*Platymantis spelaeus* Brown and Alcala 1982

*Platymantis spelaea*, Günther 1999

*Platymantis (Lupacolus) spelaeus*, Brown, Siler, Richards, Diesmos, and Cannatella 2015

Type locality and holotype specimen: Philippines, Negros, southern Negros Oriental, Basay, Tiyanan Barrio, in limestone cave (CAS 153469).

Philippine distribution: Negros (Endemic).  
 Figures 11 and 34.

***Platymantis subterrestris* (Taylor 1922)**

*Cornufer subterrestris* Taylor 1922; Inger 1954

*Platymantis subterrestris*, Zweifel 1967; Brown and Alcala 1970

*Platymantis (Tirahanulap) subterrestris*, Brown, Siler, Richards, Diesmos, and Cannatella 2015

Type locality and holotype specimen: Philippines, Luzon, Mountain Province, near kilometer 101 on the Mountain Trail (CAS 61518).

Philippine distribution: Luzon (Endemic).  
 Figures 12 and 34.

***Platymantis taylori* (Brown, Alcalá, and Diesmos 1999)***Platymantis taylori* Brown, Alcalá, and Diesmos 1999*Platymantis (Lupacolus) taylori*, Brown, Siler, Richards, Diesmos, and Cannatella 2015

Type locality and holotype specimen: Philippines, Luzon, Province of Isabela, Municipality of Palanan, Barangay Didian, eastern Sierra Madre Mountains in Sitio Natapdukan (PNM 6884).

Philippine distribution: Luzon (Endemic).

Figures 12 and 35.

**Family Dicroglossidae*****Fejervarya moodiei* (Taylor 1920)***Rana cancrivora* Gravenhorst 1829*Rana tigrina angustopalmata* Van Kampen 1907; Barbour 1912*Rana tigrina* var. *cancrivora*, Boulenger 1918*Rana cancrivora*, Annandale 1918*Rana (Rana) crancrivora*, Boulenger 1920*Rana moodiei*, Taylor 1920*Rana cancrivora cancrivora*, Dunn 1928; Inger 1954*Rana cancrivora raja* Smith 1930*Dicroglossus cancrivorus*, Deckert 1938*Rana raja*, Taylor 1962*Rana (Euphlyctis) cancrivora*, Dubois 1981*Euphlyctis cancrivora*, Poynton and Broadley 1985*Limnonectes (Hoplobatrachus) cancrivorus*, Dubois 1987 “1986”*Limnonectes (Hoplobatrachus) moodiei*, Dubois 1987 “1986”*Limnonectes (Hoplobatrachus) raja*, Dubois 1987 “1986”*Limnonectes (Fejervarya) raja*, Dubois 1992*Limnonectes (Fejervarya) cancrivorus*, Dubois 1992*Fejervarya raja*, Iskandar 1998*Fejervarya cancrivora*, Iskandar 1998*Fejervarya moodiei*, Dubois and Ohler 2000

Type locality and holotype specimen: Indonesia, Java (Status and whereabouts of holotype unknown; not traced).

Philippine distribution: Apo, Bohol, Boracay, Busuanga, Cagraray, Calagna-an, Caluya, Camiguin Sur, Cebu, Clara, Cuyo, Dumarán, Dinagat, Gigantes Norte, Gigantes Sur, Guimaras, Inampulugan, Jau, Lapinin Chico, Lapinig Grande, Leyte, Lubang, Luzon, Mactán, Marinduque, Masbate, Mindanao, Mindoro, Negros, Pacijan, Palawan, Pan de Azúcar, Panay, Polillo, Ponson, Rapu-Rapu, Romblon Island Group, Sicogon, Sulu Archipelago, Ticao, Tintiman, Verde (Non-endemic).

Figures 12 and 34.

***Fejervarya vittigera* (Wiegmann 1834)***Rana vittigera* Wiegmann 1834*Rana limnocharis vittigera*, Inger 1954*Rana (Fejervarya) vittigera*, Dubois 1984*Euphlyctis limnocharis vittigera*, Poynton and Broadley 1985*Limnonectes (Fejervarya) vittiger*, Dubois 1987 “1986”

*Rana limnocharis*, Alcala and Brown 1998

*Fejervarya vittigera*, Iskandar 1998

Type locality and holotype specimen: Philippines, southern Luzon, Laguna Bay (CAS 61636).

Philippine distribution: Bohol, Cagraray, Caluya, Camiguin Sur, Cebu, Cocomo, Dinagat, Guimaras, Leyte, Lubang, Luzon, Marinduque, Masbate, Mindanao, Mindoro, Negros, Palawan, Pan de Azucar, Panay, Polillo, Romblon Island Group (Endemic).

Figures 13 and 35.

***Hoplobatrachus rugulosus* (Wiegmann 1834)**

*Rana chinensis* Osbeck 1765

*Rana rugulosa* Wiegmann 1834; Annandale 1918; Alcala and Brown 1998

*Rana tigrina pantherina* Steindachner 1867; Boulenger 1920; Taylor and Elbel 1958

*Hydrostentor pantherinus*, Steindachner 1867

*Rana tigrina*, Flower 1899

*Rana esculenta chinensis*, Wolterstorff 1906

*Rana burkilli* Annandale 1910

*Rana tigrina* var. *burkilli*, Boulenger 1918

*Rana tigrina rugulosa*, Smith 1930; Fang and Chang 1931

*Rana (Euphlyctis) rugulosa*, Dubois 1981

*Euphlyctis tigrina rugulosa*, Poynton and Broadley 1985

*Limnonectes (Hoplobatrachus) rugulosus*, Dubois 1987 "1986"

*Tigrina rugulosa*, Fei, Ye, and Huang 1990

*Hoplobatrachus rugulosus*, Dubois 1992

*Hoplobatrachus chinensis*, Ohler, Swan, and Daltry, 2002

Type locality and holotype specimen: China, vicinity of Canton (ZMB 3721).

Philippine distribution: Caluya, Luzon, Masbate, Mindoro, Panay (Introduced; Diesmos et al. 2006).

Figures 13 and 35.

***Limnonectes acanthi* (Taylor 1923)**

*Rana macrodon blythii* (part) Boulenger 1920

*Rana acanthi* Taylor 1923; Taylor and Elbel 1958

*Rana macrodon acanthi*, Inger 1954; Brown and Alcala 1955

*Rana magna acanthi*, Inger 1958

*Limnonectes (Limnonectes) acanthi*, Dubois 1987 "1986"

Type locality and holotype specimen: Philippines, Calamian Islands, Busuanga Island (CAS 32577).

Philippine distribution: Balabac, Busuanga, Culion, Mindoro, Moro, Palawan (Endemic).

Figures 13 and 35.

***Limnonectes diuatus* (Brown and Alcala 1977)**

*Rana diuata* Brown and Alcala 1977

*Limnonectes (Limnonectes) diuatus*, Dubois 1987 "1986"

Type locality and holotype specimen: Philippines, Mindanao, Agusan del Norte Province, Caba-dbaran, Diuata Mountains, south side of Mt. Hilong-hilong, Taguibo River (ca. 1,000 m elev.) (CAS 133500).

Philippine distribution: Mindanao (Endemic).

Figure 13.

***Limnonectes fernerii* Siler, McVay, Diesmos, and Brown 2009***Limnonectes fernerii* Siler, McVay, Diesmos, and Brown 2009

Type locality and holotype specimen: Philippines, Mindanao, Davao Del Norte Province, Municipality of Monkayo, Mt. Pasian in the Simulaw River Drainage, 2.3 km N, 1.0 km E of peak (7.971183°N, 126.297367°E; WGS84; 1,409 m elev.) (PNM 9506).

Philippine distribution: Mindanao (Endemic).

Figure 14.

***Limnonectes leytensis* (Boettger 1893)***Hylarana mindanensis* Girard 1853*Rana mindanensis* Boettger 1886*Rana leytensis*, Boettger 1893; Inger 1966*Rana microdisca* Boulenger 1920*Rana microdisca leytensis*, Inger 1954; Mertens 1967*Limnonectes (Limnonectes) leytensis*, Dubois 1987 “1986”

Type locality and holotype specimen: Philippines, Mindanao, unknown caldera (SMF 4931).

Philippine distribution: Basilan, Bohol, Camiguin Sur, Cebu, Dinagat, Leyte, Mindanao, Negros, Romblon Island Group, Samar, Sulu Archipelago (Endemic).

Figures 14 and 35.

***Limnonectes macrocephalus* (Inger 1954)***Rana macrodon* Boulenger 1882 (partim)*Rana magna* Stejneger 1909 (partim)*Rana macrodon macrocephala* Inger 1954*Rana magna macrocephala*, Inger 1958*Rana (Euphlyctis) magna macrocephala*, Dubois 1981*Euphlyctis magna macrocephala*, Poynton and Broadley 1985*Limnonectes (Limnonectes) macrocephalus*, Dubois 1987 “1986”

Type locality and holotype specimen: Philippines, Luzon, Tayabas Province, Sampaloc (FMNH 40519).

Philippine distribution: Alabat, Cagraray, Catanduanes, Luzon, Marinduque, Masbate, Polillo, Rapu-Rapu (Endemic).

Figures 14 and 35.

***Limnonectes magnus* (Stejneger 1910)***Rana macrodon* Boulenger 1882 (partim)*Rana magna* Stejneger 1910; Boulenger 1920*Rana modesta* Roux 1918*Rana macrodon blythii* Boulenger, 1920 (partim)*Rana modesta magna*, Smith 1927*Rana macrodon magna*, Inger 1954 (partim)*Rana magna magna*, Inger 1958 (partim)*Rana (Euphlyctis) magna*, Dubois 1981 (partim)*Euphlyctis magna*, Poynton and Broadley 1985 (partim)*Limnonectes (Limnonectes) magnus*, Dubois 1987 “1986” (partim)

Type locality and holotype specimen: Philippines, Mindanao, Mount Apo, between Todaya and camp (4,000–6,000 ft. elev.) (USNM 35231).

Philippine distribution: Basilan, Biliran, Bohol, Camiguin Sur, Dinagat, Leyte, Mindanao, Samar (Endemic).

Figures 14 and 36.

***Limnonectes micrixalus* (Taylor 1923)**

*Rana micrixalus* Taylor 1923; Inger 1954; Dubois 1987 “1986”

*Limnonectes micrixalus*, Slevin and Leviton 1956

Type locality and holotype specimen: Philippines, Basilan, Abungabung (CAS 60143).

Philippine distribution: Basilan, Mindanao (Endemic).

Figure 15.

***Limnonectes palavanensis* (Boulenger 1894)**

*Rana palavanensis* Boulenger 1894; Boulenger 1920; Inger and Voris 1988

*Rana microdisca palavanensis*, Inger 1954

*Rana (Euphlyctis) microdisca palavanensis*, Dubois 1981

*Euphlyctis palavanensis*, Poynton and Broadley 1985

*Limnonectes (Limnonectes) palavanensis*, Dubois 1987 “1986”

Type locality and holotype specimen: Philippines, Palawan Island (Status and whereabouts of holotype unknown; not traced).

Philippine distribution: Palawan (Non-endemic).

Figures 15 and 36.

***Limnonectes parvus* (Taylor 1920)**

*Rana parva* Taylor 1920; Inger 1954

*Rana microdisca parva* Inger 1966

*Rana (Euphlyctis) microdisca parva* Dubois 1981

*Euphlyctis microdisca parva* Poynton and Broadley 1985

*Limnonectes (Limnonectes) parvus*, Dubois 1987 “1986”

Type locality and holotype specimen: Philippines, Mindanao, Agusan Province, Bunawan (CM 3241).

Philippine distribution: Basilan, Mindanao (Endemic).

Figures 15 and 36.

***Limnonectes visayanus* (Inger 1954)**

*Rana macrodon* Boulenger 1882

*Rana macrodon blythii* (part) Boulenger 1920

*Rana magna* Taylor 1923; Brown and Alcala 1970

*Rana macrodon visayanus*, Inger 1954

*Rana magna visayanus*, Inger 1958

*Limnonectes (Limnonectes) visayanus*, Dubois 1987 “1986”

Type locality and holotype specimen: Philippines, Siquijor Island (FMNH 61636).

Philippine distribution: Bohol, Calagna-an, Cebu, Guimaras, Masbate, Negros, Panay, Poro, Romblon Island Group, Sicogon, Siquijor, Ticao (Endemic).

Figures 15 and 36.

***Limnonectes woodworthi* (Taylor 1923)**

*Rana woodworthi* Taylor 1923

*Limnonectes (Limnonectes) woodworthi*, Dubois 1987 “1986”

Type locality and holotype specimen: Philippines, Luzon, Laguna Province, near Los Baños (CAS 61000).

Philippine distribution: Camiguin Norte, Catanduanes, Luzon, Polillo (Endemic).  
Figures 16 and 36.

***Occidozyga diminutiva* (Taylor 1922)**

*Micrixalus diminutiva* Taylor 1922; Alcalá and Brown 1998

*Staurois diminutives*, Forcart 1946

*Ooeidozyga diminutives*, Inger 1954

*Occidozyga diminutiva*, Dubois 1981

*Phrynoglossus diminutives*, Dubois 1987 “1986”

*Phrynoglossus diminutiva*, Inger 1999; Fei, Ye, and Jiang 2010

Type locality and holotype specimen: Philippines, Mindanao, Zamboanga, “near Pasananka” (CAS 61842).

Philippine distribution: Basilan, Mindanao, Sulu Archipelago (Endemic).  
Figures 16 and 36.

***Occidozyga laevis* (Günther 1858)**

*Oxyglossus laevis* Günther 1858; Bourret 1927

*Phrynoglossus laevis*, Peters 1867

*Oxyglossis laevis*, Smith 1916

*Oxydozyga laevis*, Mertens 1927

*Ooeidozyga laevis*, Smith 1927

*Oxydozyga laevis laevis*, Mertens 1930

*Phrynoglossus laevis laevis*, Mertens 1934

*Ooeidozyga laevis laevis*, Inger 1954

*Occidozyga laevis*, Dubois 1981; Alcalá and Brown 1998

Type locality and holotype specimen: Philippines (Status and whereabouts of holotype unknown; not traced).

Philippine distribution: Alabat, Balabac, Bohol, Bonoon, Busuanga, Cagraray, Calagna-an, Calauit, Camiguin Sur, Catanduanes, Cebu, Coron, Dinagat, Guimaras, Inampulugan, Leyte, Lubang, Luzon, Marinduque, Masbate, Mindanao, Mindoro, Negros, Palawan, Panay, Polillo, Romblon Island Group, Samar, Sicogon, Sulu Archipelago (Non-endemic).

Figures 16 and 36.

**Family Eleutherodactylidae**

***Eleutherodactylus planirostris* (Cope, 1862)**

*Hylodes planirostris* Cope 1862

*Eleutherodactylus planirostris*, Stejneger 1904

*Eleutherodactylus ricordii planirostris*, Shreve 1945

*Eleutherodactylus planirostris planirostris*, Schwartz 1965

*Eleutherodactylus (Euhyas) planirostris*, Hedges 1989; Heinicke, Duellman, and Hedges 2007

*Euhyas planirostris*, Frost, Grant, Faivovich, Bain, Haas, Haddad, de Sá, Channing, Wilkinson, Donnellan, Raxworthy, Campbell, Blotto, Moler, Drewes, Nussbaum, Lynch, Green, and Wheeler 2006

Type locality and holotype specimen: New Providence Island, Bahamas (25.024936°N, 77.467209°W) (Peabody Essex Museum, presumed lost).



Philippine distribution: Luzon, Mindanao (Introduced; Olson et al. 2014; Sy et al. 2015).  
Figure 16.

### Family Megophryidae

#### ***Leptobrachium lumadorum* Brown, Siler, Diesmos, and Alcala 2009**

*Leptobrachium lumadorum* Brown, Siler, Diesmos, and Alcala 2010 “2009”

Type locality and holotype specimen: Philippines, Mindanao, Zamboanga Del Sur Province, Zamboanga City, Barangay Baluno, Pasonanca Natural Park, Sitio km 24 (7.108°N, 122.0289°E; WGS84) (PNM 9561).

Philippine distribution: Basilan, Dinagat, Mindanao (Endemic).

Figures 17 and 36.

#### ***Leptobrachium mangyanorum* Brown, Siler, Diesmos, and Alcala 2009**

*Leptobrachium mangyanorum* Brown, Siler, Diesmos, and Alcala 2010 “2009”

Type locality and holotype specimen: Philippines, Mindoro, Mindoro Oriental Province, Municipality of Victoria, Barangay Loyal, Sitio Panguisan, Panguisan River (13.150104°N, 121.200246°E; WGS84) (PNM 9559).

Philippine distribution: Mindoro, Semirara (Endemic).

Figures 17 and 37.

#### ***Leptobrachium tagbanorum* Brown, Siler, Diesmos, and Alcala 2009**

*Leptobrachium tagbanorum* Brown, Siler, Diesmos, and Alcala 2010 “2009”

Type locality and holotype specimen: Philippines, Palawan, Palawan Province, Municipality of Puerto Princesa City, Barangay Irawan, Irawan Watershed (9.8333°N, 118.650°E; WGS84) (PNM 9560).

Philippine distribution: Palawan (Endemic).

Figures 17 and 37.

#### ***Megophrys ligayae* Taylor 1920**

*Megalophrys ligayae* Taylor 1920; Inger 1999

*Megophrys monticola ligayae*, Inger 1954

*Megophrys ligayae*, Iskandar 1998

Type locality and holotype specimen: Philippines, northern Palawan (CM 3304, now CM 84521).

Philippine distribution: Balabac, Palawan (Endemic).

Figures 17 and 37.

#### ***Megophrys stejnegeri* Taylor 1920**

*Megophrys stejnegeri* Taylor 1920

*Megophrys monticola stejnegeri*, Inger 1954

*Megophrys stejnegeri*, Iskandar 1998

Type locality and holotype specimen: Philippines, Mindanao, Agusan Province, Bunawan (CM 3394).

Philippine distribution: Bohol, Dinagat, Leyte, Mindanao, Samar (Endemic).

Figures 18 and 37.

**Family Microhylidae*****Chaperina fusca* Mocquard 1892***Chaperina fusca* Mocquard 1892; Inger, 1954*Microhyla leucostigma* Boulenger 1899*Chaperina beyeri* Taylor 1920*Nectophryne picturata* Smith 1921*Sphenophryne fusca*, Van Kampen 1923; Nieden, 1926*Sphenophryne beyeri* Van Kampen 1923*Sphenophryne leucostigma* Smith 1925

Type locality and holotype specimen: Borneo, Sintang (MNHNP 91-49).

Philippine distribution: Basilan, Mindanao, Palawan, Sulu Archipelago (Non-endemic).

Figures 18 and 37.

***Kalophrynus sinensis* Peters 1867***Kalophrynus pleurostigma* var. *sinensis* Peters 1867*Kalophrynus sinensis*, Zug 2015

Type locality and holotype specimen: “Hongkong” [in error] (ZMB 5696). (NB: See Frost, 2015, for additional details of the complex synonymy associated with this nominal species.)

Philippine distribution: Basilan, Bohol, Camiguin Sur, Cullion, Dinagat, Leyte, Mindanao, Samar (Non-endemic).

Figures 18 and 37.

***Kaloula baleata* (Müller in Van Oort and Müller 1836)***Bombinator baleatus* Müller in Van Oort and Müller 1836*Hyladactylus baleatus*, Tschudi 1838*Hylaedactylus baleatus*, Duméril and Bibron 1841*Hylaedactylus balteatus*, Lichtenstein and Martens 1856*Hylaedactylus baleatus* var. *concatenata* Lichtenstein and Martens 1856*Hylaedactylus lividus* Bleeker 1857*Bombinator* (*Hylaedactylus*) *baleatus*, Schlegel 1858*Hylaedactylus celebensis* Günther 1859 “1858”*Kaloula baleata*, Günther 1859 “1858”; Barbour 1909*Callula baleata*, Cope 1867; Boulenger 1882*Calohyla celebensis*, Peters 1872*Plectropus baleatus*, Knauer 1883*Kaloula baleata baleata*, Inger 1954*Kaloula baleata ghoshi*, Cherchi 1954

Type locality and holotype specimen: Indonesia, Java, Krawang (RMNH 22118).

Philippine distribution: Palawan (Non-endemic).

Figure 18.

***Kaloula conjuncta* (Peters 1863)***Hylaedactylus* (*Holonectes*) *conjunctus* Peters 1863*Callula conjuncta*, Cope 1867*Kaloula conjuncta*, Taylor 1920*Kaloula negrosensis* Taylor 1922*Kaloula conjuncta conjuncta*, Inger 1954 (partim)

*Kalaoula conjuncta negrosensis*, Inger 1954 (partim)

*Kaloula conjuncta stickeli*, Inger 1954

*Kaloula conjuncta meridionalis*, Inger 1954 (partim)

Type locality and holotype specimen: Philippines, Luzon Island (NMW 22888).

Philippine distribution: Alabat, Borocay, Caluya, Catanduanes, Cebu, Guimaras, Leyte, Luzon, Mindanao, Mindoro, Negros, Pacijan, Panay, Polillo, Poro, Romblon Island Group, Semirara, Siquijor, Sulu Archipelago (Endemic).

Figures 19 and 37.

***Kaloula kalingensis* Taylor, 1922**

*Kaloula kalingensis* Taylor 1922; Ross and Gonzales 1992

*Kaloula baleata kalingensis*, Inger 1954

Type locality and holotype specimen: Philippines, Luzon, Mountain Province, Kalinga, Balbalan (CAS 61462).

Philippine distribution: Luzon, Palau (Endemic).

Figures 19 and 37.

***Kaloula kokacii* Ross and Gonzales 1992**

*Kaloula kokacii* Ross and Gonzales 1992

Type locality and holotype specimen: Philippines, Catanduanes, Gigmoto Municipality, from abaca near the Buadan River, Summit Boradan (8.5 km W and 1 km N of Gigmoto) (13.8°N, 124.316667°E; WGS84; 200–300 m elev.) (PNM 2043).

Philippine distribution: Catanduanes, Luzon (Endemic).

Figure 19.

***Kaloula picta* (Duméril and Bibron 1841)**

*Plectropus pictus* Duméril and Bibron 1841; Guibé 1950

*Kaloula picta*, Günther 1859; Parker 1934

*Callula picta*, Günther 1864

Type locality and holotype specimen: Philippines, Luzon, Manille (= Manila) (MNHNP 5027).

Philippine distribution: Alabat, Babuyan Island Group, Bohol, Caluya, Camiguin Sur, Catanduanes, Cebu, Cocomo, Cuyo, Dinagat, Guimaras, Lapinig Grande, Leyte, Lubang, Luzon, Mactan, Mindanao, Mindoro, Negros, Palawan, Panay, Polillo, Ponson, Rapu-Rapu, Samar, Semirara, Verde (Endemic).

Figures 19 and 38.

***Kaloula pulchra* Gray 1831**

*Kaloula pulchra* Gray 1831; Barbour 1909

*Hylaedactylus bivittatus* Cantor 1847; Boulenger 1882; Günther, 1859 “1858”; Bourret 1942

*Callula pulchra*, Günther 1864

*Caloula pulchra*, Stoliczka 1870

*Calohyla pulchra*, Peters and Doria 1878

*Callula macrodactyla* Boulenger, 1887; Parker 1934; Bourret 1942

*Callula (Kallula) pulchra*, Bourret 1927

*Kaloula pulchra pulchra*, Parker 1934

*Kaloula pulchra hainana*, Gressitt 1938

*Kaloula pulchra macrocephala*, Bourret 1942

*Kaloula macrocephala* Ohler 2003

Type locality and holotype specimen: China (Status and whereabouts of holotype unknown; not traced).

Philippine distribution: Cebu, Luzon, Mindoro, Palawan (Introduced; Diesmos et al. 2006; Sy et al. 2014).

Figures 20 and 38.

***Kaloula rigida* Taylor 1922**

*Kaloula rigida* Taylor 1922; Parker 1934; Slevin and Leviton 1956

Type locality and holotype specimen: Philippines, Luzon, Mountain Province, Kalinga, Balbalan (CAS 61475).

Philippine distribution: Luzon (Endemic).

Figures 20 and 38.

***Kaloula walteri* Diesmos, Brown, and Alcala 2002**

*Kaloula walteri* Diesmos, Brown, and Alcala 2002

Type locality and holotype specimen: Philippines, Luzon, Quezon Province, Barangay Lalo, Municipality of Tayabas, on the southeast slope of Mt. Banahao (14.066667°N, 121.483333°E; WGS84; 950 m elev.) (PNM 6725).

Philippine distribution: Luzon, Polillo (Endemic).

Figures 20 and 38.

***Microhyla petrigena* Inger and Frogner 1979**

*Microhyla (Microhyla) petrigena*, Dubois 1987

Type locality and holotype specimen: Malaysia, Borneo, Sarawak, Kapit District, Nanga Tekalit. (FMNH 207705).

Philippine distribution: Tawi-Tawi (Non-endemic).

Figures 20 and 38.

***Oreophryne anulata* (Stejneger 1908)**

*Phrynixalus anulatus* Stejneger 1908; Taylor 1920

*Chaperina visaya* Taylor 1920

*Phrynixalus annulatus* Taylor 1920

*Oreophryne annulata*, Parker 1934; Inger 1954

Type locality and holotype specimen: Philippines, Mindanao, Davao (USNM 35399).

Philippine distribution: Leyte, Mindanao, Samar (Endemic).

Figures 21 and 38.

***Oreophryne nana* Brown and Alcala 1967**

*Oreophryne nana* Brown and Alcala 1967

Type locality and holotype specimen: Philippines, Camiguin, Mt. Hibok-hibok, on the northwest side of Nacawa volcano (1,800–3,000 ft. elev.) (CAS-SU 22055).

Philippine distribution: Camiguin Sur (Endemic).

Figures 21 and 38.

### Family Ranidae

#### *Amnirana nicobariensis* (Stoliczka 1870)

*Hyla bilineata* Van-Ernest *in* Daudin 1800; Daudin *in* Sonnini de Manoncourt and Latreille 1801

*Calamita bilineatus* Merrem 1820

*Auletris bilineatus*, Wagler 1830

*Hylorana nicobariensis* Stoliczka 1870; Deckert 1938

*Rana macularia* var. *javanica* Horst 1883

*Rana javanica*, Boulenger 1884; Van Kampen 1907

*Rana nicobariensis*, Boulenger 1885

*Rana erythraea* var. *elongate*, Werner 1892

*Rana lemniscata* Boettger 1893

*Rana (Hylorana) nicobariensis*, Boulenger 1920

*Rana sanchezi* Taylor 1920

*Rana suluensis* Taylor 1920

*Rana (Hylorana) nicobariensis*, Boulenger 1920; Van Kampen 1923

*Rana nicobariensis javanica*, Mertens 1927

*Rana nicobariensis nicobariensis*, Inger 1954

*Rana (Sylvirana) nicobariensis*, Dubois 1992

*Rana nicobariensis*, Alcalá and Brown 1998

*Sylvirana nicobariensis*, Frost, Grant, Faivovich, Bain, Haas, Haddad, de Sá, Channing, Wilkinson, Donnellan, Raxworthy, Campbell, Blotto, Moler, Drewes, Nussbaum, Lynch, and Green 2006

*Hylarana nicobariensis*, Che, Pang, Zhao, Wu, Zhao, and Zhang 2007

*Amnirana nicobariensis*, Oliver, Prendini, Kraus, and Raxworthy 2015

Type locality and holotype specimen: Indonesia, Java (Status and whereabouts of holotype unknown; not traced).

Philippine distribution: Palawan, Sulu Archipelago (Non-endemic).

Figure 21.

#### *Hylarana erythraea* (Schlegel 1837)

*Hyla erythraea* Schlegel 1837

*Hylarana erythraea*, Tschudi 1838; Bourret 1942; Fei, Ye, and Huang 1990; Chen, Murphy, Lathrop, Ngo, Orlov, Ho, and Somorjai 2005

*Limnodytes erythraeus*, Duméril and Bibron 1841

*Hylorana erythraea*, Günther 1864; Deckert 1938

*Rana erythraea*, Boulenger 1882

*Rana (Hylorana) erythraea*, Boulenger *in* Mason 1882

*Rana (Hylarana) erythraea*, Müller 1887

*Rana (Limnodytes) erythraea*, Bourret 1927

Type locality and holotype specimen: Sumatra (RMNH 1744, 1746, 1749; MNHNP 4570–4572, syntypes).

Philippine distribution: Borocay, Calagna-an, Guimaras, Leyte, Luzon, Masbate, Mindoro, Negros, Panay, Romblon Island Group, Samar (Introduced; Diesmos et al. 2006).

Figures 21 and 38.

***Lithobates catesbeianus* (Shaw 1802)**

*Rana catesbeiana* Shaw, 1802; Boulenger 1920; Dubois 1987 “1986”

*Rana pipiens* Daudin 1802

*Rana taurina* Cuvier 1817

*Rana mugiens* Merrem, 1820

*Rana scapularis* Harlan, 1826

*Rana conspersa* Le Conte 1855

*Rana catesbyana* Cope 1889; Werner 1909

*Rana (Rana) catesbeiana*, Boulenger, 1920

*Rana nantaiwuensis* Hsü 1930

*Rana mugicus* Angel 1947

*Rana (Aquarana) catesbeiana*, Dubois, 1992; Hillis 2007

*Rana (Novirana, Aquarana) catesbeiana*, Hillis and Wilcox 2005

*Lithobates catesbeianus*, Frost, Grant, Faivovich, Bain, Haas, Haddad, de Sá, Channing, Wilkinson, Donnellan, Raxworthy, Campbell, Blotto, Moler, Drewes, Nussbaum, Lynch, Green, and Wheeler, 2006

*Lithobates (Aquarana) catesbeianus*, Dubois 2006

Type locality and holotype specimen: North America (Status and whereabouts of holotype unknown; not traced).

Philippine distribution: Leyte, Luzon, Mindanao, Mindoro, Panay (Introduced; Diesmos et al. 2006).

Figures 22 and 39.

***Pulchrana grandocula* (Taylor 1920)**

*Rana grandocula* Taylor 1920; Inger and Tan 1996

*Rana philippinensis* Taylor 1920

*Rana yakani* Taylor 1922

*Rana signata grandocula*, Inger 1954; Alcalá and Brown 1998

*Rana signata*, Frost 1985

*Rana (Pulchrana) grandocula*, Dubois 1992

*Pulchrana grandocula*, Frost, Grant, Faivovich, Bain, Haas, Haddad, de Sá, Channing, Wilkinson, Donnellan, Raxworthy, Campbell, Blotto, Moler, Drewes, Nussbaum, Lynch, and Green 2006

*Hylarana grandocula*, Che, Pang, Zhao, Wu, Zhao, and Zhang 2007; Brown and Siler 2013

*Pulchrana grandocula*, Oliver, Prendini, Kraus, and Raxworthy 2015

Type locality and holotype specimen: Philippines, Mindanao, Agusan Province, near Bunawan (CM 3501).

Philippine distribution: Basilan, Biliran, Bohol, Camiguin Sur, Dinagat, Leyte, Mindanao, Samar (Endemic).

Figures 22 and 39.

***Pulchrana guttmani* (Brown 2015)**

*Rana grandocula* Brown and Guttman 2002 (partim)

*Hylarana* sp. 2, Brown and Siler 2013

*Hylarana guttmani* Brown 2015

Type locality and holotype specimen: Philippines, southern Mindanao Island, South Cotabato Province (~2 km north of border with Sarangani Province), Municipality of Kiamba,

Barangay Badtasan, Sitio Banate, Mt. Busa (6.0923°N, 124.6709°E; WGS84; 1,200 m elev.) (PNM 9790, formerly KU 326399).

Philippine distribution: Mindanao (Endemic).

Figure 43.

***Pulchrana mangyanum* (Brown and Guttman 2002)**

*Rana mangyanum* Brown and Guttman 2002

*Pulchrana mangyanum*, Frost, Grant, Faivovich, Bain, Haas, Haddad, de Sá, Channing, Wilkinson, Donnellan, Raxworthy, Campbell, Blotto, Moler, Drewes, Nussbaum, Lynch, and Green 2006

*Hylarana mangyanum*, Che, Pang, Zhao, Wu, Zhao, and Zhang 2007; Brown and Siler 2013

*Pulchrana mangyanum*, Oliver, Prendini, Kraus, and Raxworthy 2015

Type locality and holotype specimen: Philippines, Mindoro, Oriental Mindoro Province, Municipality of Puerto Galera (within 1 km of the border of the Municipality of San Teodoro), Barangay Villaflor (15 km from Puerto Gallera City on Puerto Gallera-Calapan Road), Tamaraw Falls (unnamed river) (150 m elev.) (PNM 6270).

Philippine distribution: Mindoro, Semirara (Endemic).

Figures 22 and 39.

***Pulchrana melanomenta* (Taylor 1920)**

*Rana melanomenta* Taylor 1920; Brown and Guttman 2002

*Rana (Pulchrana) melanomenta*, Dubois 1992

*Pulchrana melanomenta*, Frost, Grant, Faivovich, Bain, Haas, Haddad, de Sá, Channing, Wilkinson, Donnellan, Raxworthy, Campbell, Blotto, Moler, Drewes, Nussbaum, Lynch, and Green 2006

*Hylarana melanomenta*, Che, Pang, Zhao, Wu, Zhao, and Zhang 2007; Brown and Siler 2013

*Pulchrana melanomenta*, Oliver, Prendini, Kraus, and Raxworthy 2015

Type locality and holotype specimen: Philippines, Sulu Archipelago, Papahag Island (Bur. Sci. Manila No. 1661, destroyed).

Philippine distribution: Papahag (Endemic).

Figure 22.

***Pulchrana moellendorffi* (Boettger 1893)**

*Rana moellendorffi* Boettger 1893; Brown and Guttman 2002

*Rana (Hylarana) moellendorffi*, Boulenger 1920

*Rana signata moellendorffi*, Inger 1954; Alcalá and Brown 1998

*Rana (Hylarana) moellendorffi*, Dubois 1987 “1986”

*Rana (Pulchrana) moellendorffi*, Dubois 1992

*Pulchrana moellendorffi*, Frost, Grant, Faivovich, Bain, Haas, Haddad, de Sá, Channing, Wilkinson, Donnellan, Raxworthy, Campbell, Blotto, Moler, Drewes, Nussbaum, Lynch, and Green 2006

*Hylarana moellendorffi*, Che, Pang, Zhao, Wu, Zhao, and Zhang 2007; Brown and Siler 2013

*Pulchrana moellendorffi*, Oliver, Prendini, Kraus, and Raxworthy 2015

Type locality and holotype specimen: Philippines, Calamianes Island Group, Culion Island (SMF 5432).

Philippine distribution: Balabac, Busuanga, Caluit, Coron, Culion, Palawan (Endemic).  
Figures 23 and 39.

***Pulchrana similis* (Günther 1873)**

*Polypedates similis* Günther 1873

*Rana similis*, Boulenger 1882; Brown and Guttman 2002

*Rana (Hylarana) signata* Boulenger 1920

*Rana signata similis*, Inger 1954; Alcala and Brown 1998

*Rana (Pulchrana) similis*, Dubois 1992

*Pulchrana similis*, Frost, Grant, Faivovich, Bain, Haas, Haddad, de Sá, Channing, Wilkinson, Donnellan, Raxworthy, Campbell, Blotto, Moler, Drewes, Nussbaum, Lynch, and Green 2006

*Hylarana similis*, Che, Pang, Zhao, Wu, Zhao, and Zhang 2007; Brown and Siler 2013

*Pulchrana similis*, Oliver, Prendini, Kraus, and Raxworthy 2015

Type locality and holotype specimen: Philippines, Luzon, Laguna del Bay (Status and whereabouts of holotype unknown; not traced).

Philippine distribution: Cagraray, Catanduanes, Luzon, Polillo, Rapu-Rapu (Endemic).  
Figures 23 and 39.

***Sanguirana albotuberculata* (Inger 1954)**

*Rana everetti albotuberculata* Inger 1954

*Rana (Chalcorana) albotuberculata*, Dubois 1992

*Rana albotuberculata*, Brown, McGuire, and Diesmos 2000

*Hydrophylax albotuberculata*, Frost, Grant, Faivovich, Bain, Haas, Haddad, de Sá, Channing, Wilkinson, Donnellan, Raxworthy, Campbell, Blotto, Moler, Drewes, Nussbaum, Lynch, and Green 2006

*Hylarana albotuberculata*, Che, Pang, Zhao, Wu, Zhao, and Zhang 2007

*Chalcorana albotuberculata*, Fei, Ye, and Jiang 2010

*Sanguirana albotuberculata*, Fuiten, Welton, Diesmos, Barley, Oberheide, Duya, Rico, and Brown 2011

Type locality and holotype specimen: Philippines, Leyte, Cabalian (MCZ 23190).

Philippine distribution: Leyte, Mindanao, Samar (Endemic).  
Figures 23 and 39.

***Sanguirana aurantipunctata* Fuiten, Welton, Diesmos, Barley, Oberheide, Duya, Rico, and Brown 2011**

Type locality and holotype specimen: Philippines, Luzon, Nueva Vizcaya Province, Municipality of Quezon, Barangay Maddiangat, Sitio Parola, Mt. Palali (16.438°N, 121.225°E; WGS84; 1,500 m elev.) (PNM 9727).

Philippine distribution: Luzon (Endemic).  
Figures 23 and 39.

***Sanguirana everetti* (Boulenger 1882)**

*Rana everetti* Boulenger 1882; Brown, McGuire, and Diesmos 2000

*Rana mearnsi* Stejneger 1905

*Rana dubita* Taylor 1920

*Rana (Hylarana) everetti*, Boulenger 1920

*Rana (Hylarana) mearnsi* Boulenger 1920

*Rana merrilli* Taylor 1922



*Rana (Hylarana) everetti*, Van Kampen 1923; Dubois 1987 “1986”

*Rana everetti everetti*, Inger 1954

*Rana (Chalcorana) everetti*, Dubois 1992

*Hydrophylax everetti*, Frost, Grant, Faivovich, Bain, Haas, Haddad, de Sá, Channing, Wilkinson, Donnellan, Raxworthy, Campbell, Blotto, Moler, Drewes, Nussbaum, Lynch, and Green 2006

*Hylarana everetti*, Che, Pang, Zhao, Wu, Zhao, and Zhang 2007

*Chalcorana everetti*, Fei, Ye, and Jiang 2010

*Sanguirana everetti*, Fuiten, Welton, Diesmos, Barley, Oberheide, Duya, Rico, and Brown 2011

Type locality and holotype specimen: Philippines, Mindanao, Zamboanga (Status and whereabouts of holotype unknown; not traced).

Philippine distribution: Mindanao (Endemic).

Figures 24 and 39.

***Sanguirana igorota* (Taylor 1922)**

*Rana igorota* Taylor 1922; Brown, McGuire, and Diesmos 2000

*Rana everetti luzonensis* Inger 1954

*Rana (Chalcorana) luzonensis*, Dubois 1992

*Hydrophylax igorata*, Frost, Grant, Faivovich, Bain, Haas, Haddad, de Sá, Channing, Wilkinson, Donnellan, Raxworthy, Campbell, Blotto, Moler, Drewes, Nussbaum, Lynch, and Green 2006

*Hylarana igorota*, Che, Pang, Zhao, Wu, Zhao, and Zhang 2007

*Chalcorana igorota*, Fei, Ye, and Jiang 2010

*Sanguirana igorata*, Fuiten, Welton, Diesmos, Barley, Oberheide, Duya, Rico, and Brown 2011

Type locality and holotype specimen: Philippines, Luzon, Kalinga Subprovince, Balbalan (CAS 61484).

Philippine distribution: Luzon (Endemic).

Figures 24 and 40.

***Sanguirana luzonensis* (Boulenger 1896)**

*Rana luzonensis* Boulenger 1896; Dubois 1987 “1986”; Brown, McGuire, and Diesmos 2000

*Rana (Hylarana) luzonensis*, Boulenger 1920

*Rana guerreroi* Taylor 1920

*Rana merilli* Taylor 1922

*Rana igorata* Taylor 1922

*Rana tafti* Taylor 1922

*Rana everetti luzonensis*, Inger 1954; Alcalá and Brown 1998

*Rana (Chalcorana) luzonensis*, Dubois 1992

*Hydrophylax luzonensis*, Frost, Grant, Faivovich, Bain, Haas, Haddad, de Sá, Channing, Wilkinson, Donnellan, Raxworthy, Campbell, Blotto, Moler, Drewes, Nussbaum, Lynch, and Green 2006

*Hylarana luzonensis*, Che, Pang, Zhao, Wu, Zhao, and Zhang 2007

*Chalcorana luzonensis*, Fei, Ye, and Jiang 2010

*Sanguirana luzonensis*, Fuiten, Welton, Diesmos, Barley, Oberheide, Duya, Rico, and Brown 2011

Type locality and holotype specimen: Philippines, N. Luzon Highlands of Lepauto (= Lepanto)  
(Status and whereabouts of holotype unknown; not traced).

Philippine distribution: Luzon, Catanduanes, Marinduque, Polillo (Endemic).

Figures 24 and 40.

***Sanguirana sanguinea* (Boettger 1893)**

*Rana sanguinea*, Boettger 1893; Inger 1954

*Rana varians* Boulenger 1894

*Rana (Hylarana) sanguinea*, Boulenger 1920

*Rana (Hylarana) varians*, Boulenger 1920

*Hylarana varians*, Deckert 1938

*Rana (Hylarana) sanguinea*, Dubois 1987 “1986”

*Rana (Hylarana) varians*, Dubois 1987 “1986”

*Hylarana (Hylarana) varians*, Fei, Ye, and Huang 1990

*Rana (Sanguirana) sanguinea*, Dubois 1992

*Rana (Sanguirana) varians*, Dubois 1992

*Hylarana sanguinea*, Song, Jang, Zou, and Shi 2002

*Sanguirana sanguinea*, Frost, Grant, Faivovich, Bain, Haas, Haddad, de Sá, Channing, Wilkinson, Donnellan, Raxworthy, Campbell, Blotto, Moler, Drewes, Nussbaum, Lynch, and Green 2006

*Sanguirana varians* Frost, Grant, Faivovich, Bain, Haas, Haddad, de Sá, Channing, Wilkinson, Donnellan, Raxworthy, Campbell, Blotto, Moler, Drewes, Nussbaum, Lynch, and Green 2006

Type locality and holotype specimen: Philippines, Calamianes Island Group, Culion Island (SMF 1062a, now SMF 6221).

Philippine distribution: Busuanga, Culion, Palawan (Endemic).

Figures 24 and 40.

***Sanguirana tipanan* (Brown, McGuire, and Diesmos 2000)**

*Rana tipanan* Brown, McGuire, and Diesmos 2000

*Hydrophylax tipanan*, Frost, Grant, Faivovich, Bain, Haas, Haddad, de Sá, Channing, Wilkinson, Donnellan, Raxworthy, Campbell, Blotto, Moler, Drewes, Nussbaum, Lynch, and Green 2006

*Hylarana tipanan*, Che, Pang, Zhao, Wu, Zhao, and Zhang 2007

*Chalcorana tipanan*, Fei, Ye, and Jiang 2010

*Sanguirana tipanan*, Fuiten, Welton, Diesmos, Barley, Oberheide, Duya, Rico, and Brown 2011

Type locality and holotype specimen: Philippines, Luzon, Aurora Province, Municipality of San Luis, Aurora National Park, 1.2 km S, 1.3 km E of Barangay Villa Aurora, east side of Mt. Ma-aling-aling in the Kabatangan river drainage (15.651667°N, 121.351944°E; 470 m elev.) (PNM 5727).

Philippine distribution: Luzon (Endemic).

Figures 25 and 40.

***Staurois natator* (Günther 1858)**

*Ixalus natator* Günther 1858

*Ixalus guttatus* Günther 1858

*Staurois natator*, Cope 1865; Inger 1954

*Rana natatrix* Boulenger 1882

*Ixalus granulatus* Boettger 1888

*Staurois nubilus*, Boulenger 1918

*Rhacophorus granulatus* Ahl 1927

*Rana guttatus* Smith 1931

Type locality and holotype specimen: Philippines (BMNH 1933.9.19.10.9–11, syntypes).

Philippine distribution: Basilan, Biliran, Bohol, Dinagat, Leyte, Mindanao, Samar (Endemic).

Figures 25 and 40.

***Staurois nubilus* (Mocquard 1890)**

*Ixalus nubilus* Mocquard 1890

*Ixalus natator* var. *nubilus*, Mocquard 1892; Guibé 1950

*Staurois nubilus*, Boulenger 1918; Decker 1938; Inger and Tan 1996

Type locality and holotype specimen: Philippines, Palawan (MNHNP 1889.344–46, syntypes).

Philippine distribution: Busuanga, Culion, Palawan (Endemic).

Figures 25 and 40.

**Family Rhacophoridae**

***Kurixalus appendiculatus* (Günther 1858)**

*Polypedates appendiculatus* Günther 1858

*Rhacophorus appendiculatus*, Boulenger 1882; Ahl 1931; Brown and Alcala 1994; Harvey, Pemberton, and Smith 2002

*Rhacophorus phyllopygus* Werner 1900

*Rhacophorus chaseni* Smith 1924

*Rhacophorus appendiculatus chaseni*, Smith 1930

*Rhacophorus appendiculatus appendiculatus*, Smith 1930; Inger 1954

*Rhacophorus (Rhacophorus) chaseni*, Ahl 1931

*Rhacophorus (Rhacophorus) appendiculatus appendiculatus*, Wolf 1936

*Leptomantis appendiculatus*, Iskandar and Colijn 2000

*Kurixalus appendiculatus*, Yu, Zhang, and Yang 2013

Type locality and holotype specimen: Philippines (Status and whereabouts of holotype unknown; not traced).

Philippine distribution: Basilan, Bohol, Camiguin Sur, Leyte, Luzon, Mindanao, Samar (Non-endemic).

Figures 25 and 40.

***Nyctixalus pictus* (Peters 1871)**

*Ixalus pictus* Peters 1871

*Rhacophorus anodon* Van Kampen 1907

*Philautus pictus*, Barbour 1912

*Philautus anodon*, Van Kampen 1923

*Rhacophorus (Philautus) anodon*, Ahl 1931

*Rhacophorus (Philautus) pictus*, Ahl 1931

*Hazelia picta*, Taylor 1962

*Philautus pictus pictus*, Inger 1966

*Hazelia anodon*, Liem 1970

*Nyctixalus anodon*, Dubois 1981

*Edwardtayloria picta*, Dring 1982

*Edwardtayloria picta*, Alcalá 1986

*Nyctixalus pictus*, Brown and Alcalá 1994; Matsui 1996

Type locality and holotype specimen: Malaysia (Borneo), Sarawak (MSNG 10062).

Philippine distribution: Palawan (Endemic).

Figure 26.

***Nyctixalus spinosus* (Taylor 1920)**

*Hazelia spinosa* Taylor 1920

*Rhacophorus (Philautus) spinosus*, Ahl 1931

*Rhacophorus leprosus spinosus*, Wolf 1936

*Philautus spinosus*, Inger 1954

*Hazelia spinosa*, Liem 1970

*Edwardtayloria spinosa*, Marx 1975

*Nyctixalus spinosus*, Dubois 1981; Brown and Alcalá 1994

*Edwardtayloria spinosa*, Alcalá 1986

Type locality and holotype specimen: Philippines, Mindanao, Agusan Province, Bunawan (CM 3420).

Philippine distribution: Basilan, Bohol, Leyte, Mindanao, Samar (Endemic).

Figures 26, 40, and 41.

***Philautus acutirostris* (Peters 1867)**

*Ixalus acutirostris* Peters 1867

*Philautus acutirostris*, Stejneger 1905; Inger 1954

*Philautus woodi* Stejneger 1905

*Philautus basilanensis* Taylor 1922

*Rhacophorus (Philautus) woodi* Ahl 1931

*Rhacophorus (Philautus) basilanensis* Ahl 1931

*Rhacophorus (Philautus) acutirostris*, Ahl 1931

*Philautus (Philautus) acutirostris*, Dubois 1987 “1986”

Type locality and holotype specimen: Philippines, eastern Mindanao (NMW 22885, ZMB 5690, syntypes).

Philippine distribution: Basilan, Bohol, Mindanao (Endemic).

Figures 26 and 41.

***Philautus everetti* (Boulenger 1894)**

*Rhacophorus everetti* Boulenger 1894

*Polypedates everetti*, Taylor 1920

*Rhacophorus (Rhacophorus) buergeri everetti*, Wolf 1936

*Rhacophorus everetti everetti*, Inger 1954

*Philautus everetti*, Hertwig, Das, Schweizer, Brown, and Haas 2012

Type locality and holotype specimen: Philippines, Palawan (BMNH 94.6.3.126–127, syntypes).

Philippine distribution: Palawan (Endemic).

Figures 26 and 41.

***Philautus leitensis* (Boulenger 1897)**

*Ixalus leitensis* Boulenger 1897

*Philautus leitensis*, Stejneger 1905; Inger 1954; Bossuyt and Dubois 2001

*Rhacophorus (Philautus) leitensis*, Ahl 1931

Type locality and holotype specimen: Philippines, Leyte (BMNH 96.12.11.92).

Philippine distribution: Bohol, Leyte, Mindanao, Samar (Endemic).

Figures 27 and 41.

***Philautus longicrus* (Boulenger 1894)**

*Ixalus longicrus* Boulenger 1894

*Philautus longicrus*, Stejneger 1905; Inger 1954

*Rhacophorus (Philautus) longicrus*, Ahl 1931

*Philautus (Philautus) longicrus*, Bossuyt and Dubois 2001

Type locality and holotype specimen: Philippines, Palawan (BMMH 94.6.30.129–131, now BMMH 1947.2.6.28–30, syntypes).

Philippine distribution: Palawan (Non-endemic).

Figures 27 and 41.

***Philautus poecilus* Brown and Alcala 1994**

*Philautus poecilus* Brown and Alcala 1994

*Philautus (Philautus) poecilus*, Bossuyt and Dubois 2001

Type locality and holotype specimen: Philippines, Mindanao, Agusan del Norte Province, south side of Mt. Hilong-hilong (CAS 133526).

Philippine distribution: Mindanao (Endemic).

Figures 27 and 41.

***Philautus schmackeri* (Boettger 1892)**

*Ixalus schmackeri* Boettger 1892

*Ixalus mindorensis* Boulenger 1897

*Philautus schmackeri*, Stejneger 1905; Taylor 1920; Inger 1954; Dubois 1987 “1986”

*Philautus mindorensis* Taylor 1920; Stejneger 1905

*Rhacophorus (Philautus) schmackeri*, Ahl 1931

*Rhacophorus (Philautus) mindorensis* Ahl 1931

Type locality and holotype specimen: Philippines, Mindoro, Mt. Halcone (SMF 1099a, now SMF 7035).

Philippine distribution: Mindoro (Endemic).

Figure 27.

***Philautus surdus* (Peters 1863)**

*Polypedates surdus* Peters 1863

*Rhacophorus surdus*, Boulenger 1882

*Philautus williamsi* Taylor 1922

*Rhacophorus (Philautus) williamsi*, Ahl 1931

*Rhacophorus (Rhacophorus) surdus*, Ahl 1931

*Rhacophorus (Rhacophorus) buergeri surdus*, Wolf 1936

*Rhacophorus lissobrachius* Inger 1954

*Rhacophorus surdus*, Inger 1954

*Philautus surdus*, Liem 1970; Brown and Alcala 1994

*Philautus lissobrachius*, Liem 1970

*Philautus (Philautus) lissobrachius*, Dubois 1987 “1986”

*Philautus (Philautus) surdus*, Dubois 1987 “1986”

Type locality and holotype specimen: Philippines, Luzon (ZMB 4920).

Philippine distribution: Bohol, Luzon, Mindanao (Endemic).

Figures 28 and 41.

***Philautus surrufus* Brown and Alcalá 1994**

*Rhacophorus surdus* Rabor and Alcalá 1959 (partim)

*Philautus surrufus*, Brown and Alcalá 1994

*Philautus (Philautus) surrufus*, Bossuyt and Dubois 2001

Type locality and holotype specimen: Philippines, Mindanao, Misamis Occidental Province, about 10 km SE of Masawan, on the west side of Dapitan Peak (1,800–1,900 m elev.) (CAS-SU 21013).

Philippine distribution: Mindanao (Endemic).

Figure 28.

***Philautus worcesteri* (Stejneger 1905)**

*Cornufer worcesteri* Stejneger 1905

*Rhacophorus emembranatus* Inger 1954

*Philautus emembranatus* Liem 1970

*Philautus (Philautus) emembranatus*, Dubois 1987 “1986”

*Philautus worcesteri*, Brown, Alcalá, and Brown 1998

Type locality and holotype specimen: Philippines, Mindanao, Mount Apo (6,000 ft. elev.) (USNM 34784).

Philippine distribution: Mindanao (Endemic).

Figures 28 and 41.

***Polypedates leucomystax* (Gravenhorst 1829)**

*Hyla leucomystax* Gravenhorst 1829

*Hyla sexvirgata* Gravenhorst 1829

*Hyla quadrilineata* Wiegmann 1834

*Polypedates leucomystax*, von Tschudi 1838

*Hyla leucopogon* von Tschudi 1838

*Hyla quadrivirgata* von Tschudi 1838

*Polypedates rugosus* Duméril and Bibron 1841

*Polypedates quadrilineatus*, Günther 1859 “1858”

*Limnodytes celebensis* Fitzinger 1861 “1860”

*Polypedates hecticus* Peters 1863; Taylor 1920

*Rhacophorus hecticus*, Boulenger 1882

*Rhacophorus maculatus* var. *quadrilineata*, Boulenger 1882

*Hylorana longipes* Fischer 1885

*Polypedates maculatus quadrilineatus*, Fischer 1885

*Rhacophorus maculatus* Boetger 1886

*Rhacophorus leucomystax*, Boulenger 1889; Van Kampen 1923; Ahl 1931

*Rhacophorus leucomystax leucomystax*, Mocquard 1890

*Rhacophorus leucomystax quadrilineatus*, Mocquard 1890; Inger 1954

*Rhacophorus leucomystax* var. *sexvirgata*, Boettger 1894

*Rhacophorus leucomystax quadrilineata*, Werner 1903

*Rhacophorus maculatus leucomystax*, Annandale 1912  
*Rhacophorus maculatus himalayensis* Annandale 1912  
*Hyla wirzi* Roux 1927  
*Polypedates leucomystax*, Taylor 1920  
*Rhacophorus (Polypedates) leucomystax*, Bourret 1927  
*Rhacophorus (Polypedates) quadrilineatus*, Bourret 1927  
*Rhacophorus kampeni* Ahl 1927  
*Rhacophorus (Rhacophorus) hecticus* Ahl 1931  
*Rhacophorus (Rhacophorus) himalayanus*, Ahl 1931  
*Rhacophorus (Rhacophorus) kampeni*, Ahl 1931  
*Rhacophorus (Rhacophorus) leucomystax leucomystax*, Wolf 1936  
*Rhacophorus (Rhacophorus) wirzi* Forcart 1946  
*Polypedates leucomystax*, Alcala 1986  
*Polypedates leucomystax*, Dutta 1997

Type locality and holotype specimen: Indonesia, Java (Status and whereabouts of holotype unknown; not traced).

Philippine distribution: Batan, Bohol, Cagayan, Cagraray, Calagna-an, Caluya, Camiguin Norte, Camiguin Sur, Catanduanes, Cebu, Dinagat, Fuga, Gigantes Norte, Gigantes Sur, Guimaras, Inampulugan, Jolo, Leyte, Lubang, Luzon, Mactan, Marinduque, Masbate, Mindanao, Mindoro, Negros, Pacijan, Palaui, Palawan, Pan de Azucar, Panay, Polillo, Romblon Island Group, Samar, Semirara, Sibay, Sicogan, Verde (Non-endemic).

Figures 28 and 42.

***Polypedates macrotis* (Boulenger 1891)**

*Rhacophorus macrotis* Boulenger 1891  
*Polypedates macrotis*, Günther 1895; Liem 1970; Alcala 1986  
*Philautus montanus* Taylor 1920  
*Polypedates linki* Taylor 1922  
*Rhacophorus (Philautus) alticola* Ahl 1931  
*Rhacophorus (Rhacophorus) macrotis*, Ahl 1931  
*Rhacophorus (Rhacophorus) lincki* Ahl 1931  
*Rhacophorus leucomystax linki*, Wolf 1936; Inger 1954  
*Rhacophorus (Polypedates) macrotis*, Bossuyt and Dubois 2001

Type locality and holotype specimen: Borneo, Sarawak, Baram district (BMNH 91.1.27.8, now BMNH 1947.2.8.18).

Philippine distribution: Busuanga, Calauit, Dumarán, Palawan, Sulu Archipelago (Non-endemic).

Figures 29 and 42.

***Rhacophorus bimaculatus* (Peters 1867)**

*Leptomantis bimaculata* Peters 1867  
*Ixalus bimaculatus*, Boulenger 1882  
*Philautus bimaculatus*, Stejneger 1905; Inger 1954  
*Philautus zamboangensis* Taylor 1922  
*Rhacophorus (Philautus) bimaculatus*, Ahl 1931  
*Rhacophorus bimaculatus*, Liem 1970  
*Rhacophorus (Leptomantis) bimaculatus*, Dubois 1987 “1986”  
*Leptomantis bimaculatus*, Iskandar and Colijn 2000  
*Rhacophorus bimaculatus*, Brown and Alcala 1994; Harvey, Pemberton, and Smith 2002

Type locality and holotype specimen: Philippines, Mindanao, Upper Valley of the Agusan (ZMB 5681, NHMW 16091, syntypes).

Philippine distribution: Bohol, Catanduanes, Dinagat, Leyte, Luzon, Mindanao, Polillo, Samar (Endemic).

Figures 29 and 42.

***Rhacophorus pardalis* Günther 1858**

*Rhacophorus pardalis* Günther 1858

*Rhacophorus rizali* Boettger 1897, 1899

*Rhacophorus pulchellus* Werner 1900

*Polypedates pardalis*, Taylor 1920

*Rhacophorus (Rhacophorus) pardalis*, Ahl 1931

*Rhacophorus (Rhacophorus) pulchellus*, Ahl 1931

*Rhacophorus pardalis pardalis*, Wolf 1936; Inger 1954

*Rhacophorus pardalis pulchellus*, Wolf 1936

*Rhacophorus pardalis rhysocephalus*, Wolf 1936

*Rhacophorus rhysocephalus*, Inger and Voris 2001

Type locality and holotype specimen: Philippines (Status and whereabouts of holotype unknown; not traced).

Philippine distribution: Basilan, Bohol, Camiguin Sur, Catanduanes, Dinagat, Leyte, Luzon, Mindanao, Mindoro, Negros, Romblon Island Group, Samar, Siquijor (Non-endemic).

Figures 29 and 42.

**Class Amphibia, Order Gymnophiona**  
**Family Ichthyophiidae**

***Ichthyophis glandulosus* (Taylor 1923)**

*Ichthyophis glandulosus* Taylor 1923

*Ichthyophis monochrous* Inger 1954; Alcalá 1986

Type locality and holotype specimen: Philippines, Basilan, Abungabung (= Abung Abung) (CAS 60073).

Philippine distribution: Basilan, Mindanao (Endemic).

Figures 29 and 42.

***Ichthyophis mindanaoensis* (Taylor 1960)**

*Ichthyophis monochrous* Inger 1954; Alcalá 1986

*Ichthyophis mindanaoensis* Taylor 1960

Type locality and holotype specimen: Philippines, Mindanao, Davao Province, Mt. Apo, Todaya (2,800 ft. elev.) (FMNH 50958).

Philippine distribution: Mindanao (Endemic).

Figure 30.

***Ichthyophis weberi* Taylor 1920**

*Ichthyophis weberi* Taylor 1920

*Caudacaecilia weberi*, Taylor 1923, 1968

*Ichthyophis monochrous* Inger 1954; Alcalá 1986

*Ichthyophis weberi*, Nishikawa, Matsui, Yong, Ahmad, Yambun, Belabut, Sudin, Hamidy, Orlov, Ota, Yoshikawa, Tominaga, and Shimada 2012



Type locality and holotype specimen: Philippines, Palawan, Malatgan River (CAS-SU 21758, neotype).

Philippine distribution: Palawan (Endemic).

Figure 30.

## CONCLUSIONS

Our understanding of biodiversity of amphibians in the Philippines has increased substantially over the last century as a result of continued faunal surveys over a greater proportion of the archipelago and, more recently, with the increased availability of genetic data guiding identification and discovery of unique evolutionary lineages (Brown et al. 2013). Vouchered global collections now exceed 43,000 specimen records, housed among more than 30 museums in seven countries. The amphibian fauna in the Philippines includes members of nine anuran families (Bombinatoridae, Bufonidae, Ceratobatrachidae, Dicroglossidae, Eleutherodactylidae, Megophryidae, Microhylidae, Ranidae, Rhacophoridae) and one gymnophionan family (Ichthyophiidae). Four of these families are represented by endemic species only in the archipelago (Bombinatoridae, Ceratobatrachidae, Ichthyophiidae, Megophryidae).

What once was considered a depauperate amphibian fauna composed of a number of widespread species distributed across larger regions of Southeast Asia (Inger 1954; Brown and Alcala 1970a, b), we take note of the fact that the diversity of endemic amphibian species in the Philippines has risen precipitously (Figure 1) in recent years. Currently, there are 112 species recorded in the archipelago, 94 of which are endemic (83.9% amphibian endemism). In contrast, truly widespread (non-endemic) species account for only 16.1% (18 species; Figure 1). Furthermore, nearly one-third of the country's non-endemic species are the result of introductions (*Eleutherodactylus planirostris*, *Hoplobatrachus rugulosus*, *Hylarana erythraea*, *Kaloula pulchra*, *Lithobates catesbeianus*, and *Rhinella marina*; Figure 1). Although the rate of discovery of non-endemic species of amphibians has slowed considerably over the last hundred years, the number of endemic species continues to grow with little indication of slowing. Within the last 20 years alone, 27 new amphibian species have been described (nearly one-quarter of the country's recognized diversity), all endemic to the Philippines (Figure 1). These data suggest that considerable cryptic diversity and underestimated regional diversity exist throughout the archipelago. Continued efforts to describe and study the archipelago's amphibian fauna are necessary for successful conservation of threatened taxa and clarification of the broader evolutionary mechanisms that drive such diversity.

## ACKNOWLEDGEMENTS

We thank the many museums all over the world that shared their Philippine herpetological data with us, either directly (British Museum of Natural History, California Academy of Sciences, Natural History Museum Vienna, Naturalis Biodiversity Center, Smithsonian National Museum of Natural History, University of Texas Biodiversity Collections [formerly Texas Natural History Collections], University of Kansas Biodiversity Institute and Natural History Museum) or through web portals (GBIF, VertNet). This summary could not have been possible without open access to vouchered museum specimen data. We also thank Janalee P. Caldwell, Scott Travers, and Jason Fernandez for sharing their photos. CDS and RMB are grateful for all institutions that provided financial support for fieldwork over the last two decades, including support for ACD from the National Museum of the Philippines, and for CDS from the Sam Noble Oklahoma Museum of Natural History, a Fulbright Fellowship, a Fulbright-Hayes Fellowship, and NSF DEB 0804115 and

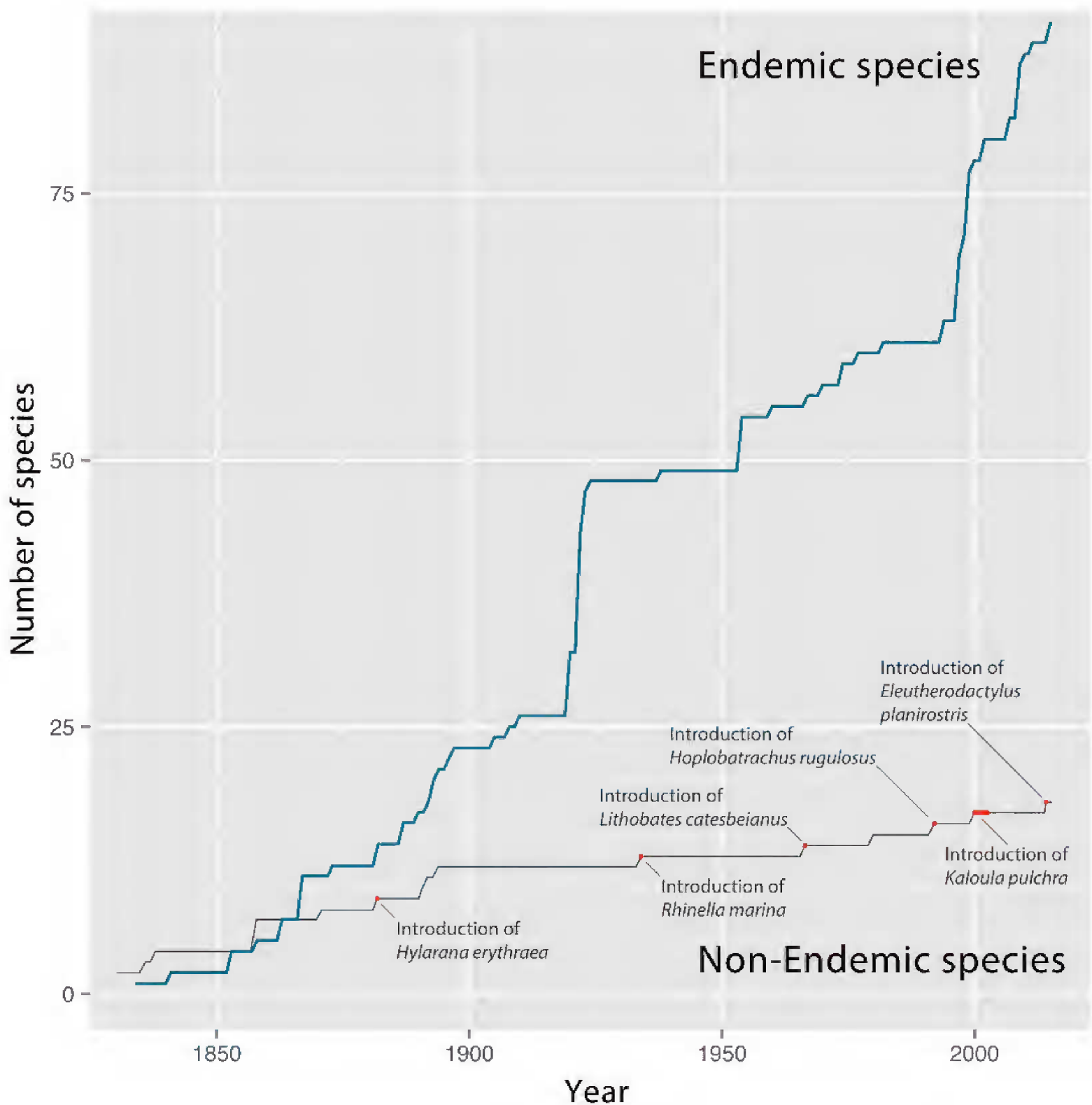


FIGURE 1.—Species accumulation curve for new amphibian species described in the Philippines, from 1758–2015.

IOS 1353683, and support for RMB from Miami University, University of Texas (Austin), and University of Kansas Biodiversity Institute, and NSF DEB 0743491 and EF-0334952. Members of the Siler Lab provided critical reviews of early drafts of the manuscript. We also wish to express our appreciation to our anonymous reviewers for their suggestions for the improvement of this contribution.

## LITERATURE CITED

- ALCALA, A. C., W. C. BROWN, AND A. C. DIESMOS. 1998. Two new species of the genus *Platymantis* (Amphibia: Ranidae) from Luzon Island, Philippines. *Proceedings of the California Academy of Sciences*, ser. 4, 50:381–388.
- AMPHIBIAWEB. 2015. *AmphibiaWeb: Information on Amphibian Biology and Conservation*. Berkeley, CA, USA. <<http://amphibiaweb.org>>. Cited 15 October 2015.
- BARBOUR, T. 1923. The frogs of the Fiji Islands. *Proceedings of the Academy of Natural Sciences Philadelphia* 75:111–115.
- BARBOUR, T. 1938. Notes on *Nectophryne*. *Proceedings of the Biological Society of Washington* 51:191–196.
- BLEEKER, P. 1858. Bestuursvergadering, gehouden ten huize van den heer Dr Bruijn Kops den 11n Maart 1858. *Natuurkundig Tijdschrift voor Nederlandsch Indië* 16:183–192.
- BOETTGER, O. 1892. *Katalog der Batrachier-Sammlung im Museum der Senckenbergischen Naturforschenden Gesellschaft in Frankfurt am Main*. Druck von Gebrüder Knauer, Frankfurt, Germany. 73 pp.
- BOETTGER, O. 1893. *Katalog der Reptilien-Sammlung im Museum der Senckenbergischen Naturforschenden Gesellschaft in Frankfurt am Main. I. Teil (Rhynchocephalen, Schildkröten, Krokodile, Eidechsen, Chamäleons)*. Gebrüder Knauer, Frankfurt, Germany. 140 pp.
- BOULENGER, G. A. 1882. *Catalogue of the Batrachia Salientia s. Ecaudata in the Collection of the British Museum*. Second Edition. Taylor and Francis, London, UK. 160 pp.
- BOULENGER, G. A. 1887. Descriptions of new reptiles and batrachians in the British Museum (Natural History).—Part III. *Annals and Magazine of Natural History*, ser. 5, 20:50–53.
- BOULENGER, G. A. 1891. Descriptions of new Oriental reptiles and batrachians. *Annals of the Magazine of Natural History*, ser. 6, 7:279–283.
- BOULENGER, G. A. 1894. On the herpetological fauna of Palawan and Balabac. *Annals of the Magazine of Natural History*, ser. 6, 14:81–90.
- BOULENGER, G. A. 1896. *Catalogue of the Snakes in the British Museum. III*. Taylor and Francis, London, UK. 727 pp.
- BOULENGER, G. A. 1897. Descriptions of new Malay frogs. *Annals and Magazine of Natural History*, ser. 5, 19:106–108.
- BROWN, R. M. 2007. *Introduction to Robert F. Inger's Systematics and Zoogeography of Philippine Amphibia*. Invited forward to the reprint of Inger's 1954 monograph. Pages 1–17 in *Systematics and Zoogeography of Philippine Amphibia*. Natural History Publications, Kota Kinabalu.
- BROWN, R. M. 2015. A new species of stream frog of the genus *Hylarana* from the mountains of southern Mindanao Island, Philippines. *Herpetologica* 71:223–233
- BROWN, R. M., AND A. C. DIESMOS. 2009. Philippines, biology. Pages 723–732 in R. Gillespie and D. Clague, eds., *Encyclopedia of Islands*. University of California Press, Berkeley, California, USA.
- BROWN, R. M., A. C. DIESMOS, AND A. C. ALCALA. 2001 (2002). Application of lineage-based species concepts to oceanic frog populations: The effects of differing taxonomic philosophies on the estimation of Philippine biodiversity. *Silliman Journal* 42:133–162.
- BROWN, R. M., A. C. DIESMOS, M. B. SANGUILA, C. D. SILER, M. L. D. DIESMOS, AND A. C. ALCALA. 2012. Amphibian conservation in the Philippines. *FrogLog* 104:40–43.
- BROWN, R. M., AND J. C. GONZALEZ. 2007. A new forest frog of the genus *Platymantis* (Amphibia: Anura: Ranidae) from the Bicol Peninsula of Luzon Island, Philippines. *Copeia* 2007:251–266.
- BROWN, R. M., AND S. I. GUTTMAN. 2002. Phylogenetic systematics of the *Rana signata* complex of Philippine and Bornean stream frogs: reconsideration of Huxley's modification of Wallace's Line at the Oriental–Australian faunal zone interface. *Biological Journal of the Linnean Society London* 76: 393–461.
- BROWN, R. M., L. A. DE LAYOLA, A. LORENZO II, M. L. L. DIESMOS, AND A. C. DIESMOS. 2015. A new species of limestone karst inhabiting forest frog, genus *Platymantis* (Amphibia: Anura: Ceratobatrachidae: subgenus *Lupacolus*) from southern Luzon Island, Philippines. *Zootaxa* 4048:191–210.
- BROWN, R. M., J. A. MCGUIRE, AND A. C. DIESMOS. 2000. Status of some Philippine frogs referred to *Rana everetti* (Anura: Ranidae), description of a new species, and resurrection of *Rana igorata* Taylor 1922.

*Herpetologica* 56:81–104.

- BROWN, R. M., AND C. D. SILER. 2013. Spotted stream frog diversification at the Australasian faunal zone interface, mainland versus island comparisons, and a test of the Philippine ‘dual-umbilicus’ hypothesis. *Journal of Biogeography* 41:182–195.
- BROWN, R. M., C. D. SILER, A. C. DIESMOS, AND A. C. ALCALA. 2009. The Philippines frogs of the genus *Leptobrachium* (Anura; Megophryidae) : taxonomic revision, phylogeny-based species delimitation, and descriptions of three new species. *Herpetological Monographs* 23:1–44.
- BROWN, R. M., C. D. SILER, C. H. OLIVEROS, J. A. ESSELSTYN, A. C. DIESMOS, P. A. HOSNER, C. W. LINKEM, A. J. BARLEY, J. R. OAKS, M. B. SANGUILA, L. J. WELTON, D. S. BLACKBURN, R. G. MOYLE, A. T. PETERSON, AND A. C. ALCALA. 2013. Evolutionary processes of diversification in a model island archipelago. *Annual Review of Ecology, Evolution, and Systematics* 44:411–435.
- BROWN, R. M., C. D. SILER, S. RICHARDS, A. C. DIESMOS, AND D. C. CANNATELLA. 2015. Multilocus phylogeny and a new classification for Southeast Asian and Melanesian forest frogs (family Ceratobatrachidae). *Zoological Journal of the Linnaean Society* 174:130–168.
- BROWN, R. M., AND B. L. STUART. 2012. Patterns of biodiversity discovery through time: an historical analysis of amphibian species discoveries in the Southeast Asian mainland and adjacent island archipelagos. Pages 348–389 in Gower, D. J., K. G. Johnson, J. E. Richardson, B. R. Rosen, L. Rüber, and S. T. Williams, eds., *Biotic Evolution and Environmental Change in Southeast Asia*. Cambridge University Press, Cambridge, UK.
- BROWN, W. C., AND A. C. ALCALA. 1967. A new frog of the genus *Oreophryne* and a list of amphibians from Camiguin Island, Philippines. *Proceedings of the Biological Society of Washington* 80:65–68.
- BROWN, W. C., AND A. C. ALCALA. 1970a. A new species of the genus *Platymantis* (Ranidae) with a list of amphibians known from South Gigante Island, Philippines. *Occasional Papers of the California Academy of Sciences* 84:1–8.
- BROWN, W. C., AND A. C. ALCALA. 1970b. The zoogeography of the herpetofauna of the Philippine Islands, a fringing archipelago. *Proceedings of the California Academy of Sciences*, ser. 4, 38:105–130.
- BROWN, W. C., AND A. C. ALCALA. 1974. New frogs of the genus *Platymantis* (Ranidae) from the Philippines. *Occasional Papers of the California Academy of Sciences* 113:1–12.
- BROWN, W. C., AND A. C. ALCALA. 1977. A new frog of the genus *Rana* from the Philippines. *Proceedings of the Biological Society of Washington* 90:669–675.
- BROWN, W. C., AND A. C. ALCALA. 1982. A new cave *Platymantis* (Amphibia: Ranidae) from the Philippine Islands. *Proceedings of the Biological Society of Washington* 95:386–391.
- BROWN, W. C., AND A. C. ALCALA. 1994. Philippine frogs of the family Rhacophoridae. *Proceedings of the California Academy of Sciences*, ser. 4, 48:185–220.
- BROWN, W. C., A. C. ALCALA, A. C. DIESMOS, AND E. ALCALA. 1997a. Species of the *guentheri* group of *Platymantis* (Amphibia: Ranidae) from the Philippines, with descriptions of four new species. *Proceedings of the California Academy of Sciences*, ser. 4, 50:1–20.
- BROWN, W. C., R. M. BROWN, AND A. C. ALCALA. 1997b. Species of the *hazelae* group of *Platymantis* (Amphibia: Ranidae) from the Philippines, with descriptions of two new species. *Proceedings of the California Academy of Sciences*, ser. 4, 49:405–421.
- BROWN, W. C., R. M. BROWN, A. C. ALCALA, AND R. FROST. 1997c. Replacement name for *Platymantis reticulatus* Brown, Brown, and Alcala, 1997 (Ranidae: Raninae). *Herpetological Review* 28:131.
- BROWN, W. C., A. C. ALCALA, AND A. C. DIESMOS. 1999a. Four new species of the genus *Platymantis* (Amphibia: Ranidae) from Luzon Island, Philippines. *Proceedings of the California Academy of Sciences*, ser. 4, 51:449–460.
- BROWN, W. C., A. C. ALCALA, P. S. ONG, AND A. C. DIESMOS. 1999b. A new species of *Platymantis* (Amphibia: Ranidae) from the Sierra Madre Mountains, Luzon Island, Philippines. *Proceedings of the Biological Society of Washington* 112:510–514.
- CIAT-CSI SRTM. 2015. *The CGIAR Consortium for Spatial Information*. <<http://srtm.csi.cgiar.org>>. Cited 1 October 2015.
- DIESMOS, A. C., R. M. BROWN, AND A. C. ALCALA. 2002. New species of narrow-mouthed frog (Amphibia: Anura: Microhylidae: genus *Kaloula*) from the mountains of southern Luzon and Polillo Islands,

Philippines. *Copeia* 2002:1037–1051.

- DIESMOS, M. L. D., A. C. DIESMOS, C. D. SILER, V. T. VREDENBURG, AND R. M. BROWN. 2012. Detecting the distribution of the chytrid fungus in the Philippines. *FrogLog* 104:48–49.
- DIESMOS, A. C., R. M. BROWN, A. C. ALCALA, R. V. SISON, L. E. AFUANG, AND G. V. A. GEE. 2002. Philippine amphibians and reptiles. Pages 26–44 in P. S. Ong, L. E. Afuang, and R. G. Rosell-Ambal, eds., *Philippine Biodiversity Conservation Priorities: a Second Iteration of the National Biodiversity Strategy and Action Plan*. Department of the Environment and Natural Resources–Protected Areas and Wildlife Bureau, Conservation International Philippines, Biodiversity Conservation Program–University of the Philippines Center for Integrative and Developmental Studies, and Foundation for the Philippine Environment, Quezon City, Philippines.
- DIESMOS, A. C., M. L. DIESMOS, AND R. M. BROWN. 2006. Status and distribution of alien invasive frogs in the Philippines. *Journal of Environmental Science and Management, Philippines* 9:41–53.
- DIESMOS, A. C., A. C. ALCALA, C. D. SILER, AND R. M. BROWN. 2014. Status and conservation of Philippine amphibians. Pages 310–336 in H. Heatwole, H. and I. Das, eds., *Conservation Biology of Amphibians of Asia. Status and Decline of Amphibians: Eastern Hemisphere*. Natural History Publications (Borneo), Kota Kinabalu, Malaysia.
- DIESMOS, A. C., AND R. M. BROWN. 2011. Diversity, biogeography, and conservation of Philippine amphibians. Pages 26–49 in I. Das, A. Haas and A. A. Tuen, eds., *Biology and Conservation of Tropical Asian Amphibians*. Proceedings of the Conference “Biology of the Amphibians in the Sunda Region, Southeast Asia.” Institute of Biodiversity and Environmental Conservation, Universiti Malaysia Sarawak, Kota Samarahan, Sarawak, Malaysia.
- DUMÉRIL, A. H. A. 1853. Mémoire sur les batraciens anoures, de la famille des hylaeformes ou rainettes, comprennent la description d’un genre nouveau et de onze espèces nouvelles. *Annales des Sciences Naturelles, Zoologie et Biologie Animale, Paris, Serie 3*, 19:135–179.
- DUMÉRIL, A. M. C., AND G. BIBRON. 1841. *Erpétologie Générale ou Histoire Naturelle Complète des Reptiles. Vol.8*. Librairie Encyclopedique de Roret, Paris, France. 24 pp.
- COPE, E. D. 1862. On some new and little known American Anura. *Proceedings of the Academy of Natural Sciences of Philadelphia* 14:151–159.
- FROST, D. R. 2015. *Amphibian Species of the World: an Online Reference. Version 6.0*. American Museum of Natural History, New York, USA. <<http://research.amnh.org/herpetology/amphibia/index.html>>. Cited 21 September 2015.
- FUITEN, A. M., L. J. WELTON, A. C. DIESMOS, A. J. BARLEY, B. OBERHEIDE, M. V. DUYA, E. L. B. RICO, AND R. M. BROWN. 2011. A new species of stream frog (*Sanguirana*) from the mountains of Luzon Island, Philippines. *Herpetologica* 67:89–103.
- GRAVENHORST, J. L. C. 1829. *Deliciae Musei Zoologici Vratislaviensis. Fasciculus primus. Chelonios et Batrachia*. Leopold Voss, Leipzig, Germany. 104 pp.
- GÜNTHER, A. 1873. Notes on some reptiles and batrachians obtained by Dr. Bernhard Meyer in Celebes and the Philippine Islands. *Proceedings of the Zoological Society of London* 1873:165–172.
- GÜNTHER, A. C. L. G. 1858. Neue Batrachier in der Sammlung des Britischen Museums. *Archiv für Naturgeschichte* 24:319–332.
- GÜNTHER, A. C. L. G. 1895. The reptiles and batrachians of the Natuna Islands. *Novitates Zoologicae* 2:499–502.
- INGER, R. F. 1954. Systematics and zoogeography of Philippine Amphibia. *Fieldiana Zoology* 33:183–531.
- INGER, R. F., AND K. J. FROGNER. 1979. New species of narrow-mouth frogs (genus *Microhyla*) from Borneo. *Sarawak Museum Journal* 27:311–322.
- KUHL, H., AND J. C. VAN HASSELT. 1822. Uittreksels uit breieven van de Heeren Kuhl en van Hasselt, aan de Heeren C. J. Temminck, Th. van Swinderen en W. de Haan. *Algemeene Konst–en Letter–Bode* 7:99–104.
- LINNAEUS, C. 1758. *Systema Naturae per Regna Tria Naturae, Secundum Classes, Ordines, Genera, Species, cum Characteribus, Differentiis, Synonymis, Locis. 10th Edition. Volume 1*. Laurentii Salvii, Stockholm, Sweden. 824 pp.
- MOCQUARD, F. 1890. Recherches sur la faune herpetologique des îles de Bornéo et de Palawan. *Nouvelles Archives du Muséum d’Histoire Naturelle. Série 3. Paris* 2:115–168.

- MOCQUARD, F. 1892. Description de deux ophidiens et d'un batracien d'espèces nouvelles. *Le Naturaliste, Série 2, Paris* 6:35.
- OLSON, C. A., A. C. DIEMOS, AND K. H. BEARD. 2014. *Eleutherodactylus planirostris* (Greenhouse Frog) on Mindanao, Philippines. *Herpetological Review* 45:652–653.
- PETERS, W. C. H. 1863. Fernere Mittheilungen über neue Batrachier. *Monatsberichte der Königlichen Preussische Akademie des Wissenschaften zu Berlin* 1863:445–470.
- PETERS, W. C. H. 1867. Herpetologische Notizen. *Monatsberichte der Königlichen Preussische Akademie des Wissenschaften zu Berlin* 1867:13–37.
- PETERS, W. C. H. 1871. Über neue Reptilien aus Ostafrika und Sarawak (Borneo), vorzüglich aus der Sammlung des Hrn. Marquis J. Doria zu Genua. *Monatsberichte der Königlichen Preussische Akademie des Wissenschaften zu Berlin* 1871:566–581.
- REUTER H. I., A. NELSON, AND A. JARVIS. 2007. An evaluation of void filling interpolation methods for SRTM data. *International Journal of Geographic Information Science* 21:983–1008.
- ROSS, C. A., AND P. C. GONZALES. 1992. Amphibians and reptiles of Catanduanes Island, Philippines. *National Museum Papers, Manila* 2:50–76.
- ROWLEY, J., R. BROWN, R. BAIN, M. KUSRINI, R. INGER, B. STUART, G. WOGAN, N. THY, T. CHANARD, C. T. TRUNG, A. DIEMOS, D. T. ISKANDAR, M. LAU, L.T. MING, S. MAKCHAI, N. Q. TRUONG AND S. PHIMMACHAK. 2010. Impending conservation crisis for Southeast Asian amphibians. *Biology Letters* 6:336–338.
- SABAJ PEREZ, M. H. 2014. Standard symbolic codes for institutional resource collections in herpetology and ichthyology: an Online Reference. Version 5.0 (28 June 2014). American Society of Ichthyologists and Herpetologists, Washington, DC. Available from: <http://www.asih.org/> (Accessed 1 June 2015).
- SCHLEGEL, H. 1837. *Abbildungen neuer oder unvollständig bekannter Amphibien, nach der Natur oder dem Leben entworfen, herausgegeben und mit einem erläuternden Texte begleitet. Part 1.* Arnz & Co., Düsseldorf, Germany. 141 pp.
- SCHNEIDER, J. G. 1799. *Historia Amphibiorum Naturalis et Literariae. Fasciculus Primus. Continens Ranas, Calamitas, Bufones, Salamandras et Hydros in Genera et Species Descriptos Notisque suis Distinctos.* Friederici Frommanni, Jena, Austria.
- SHAW, G. 1802. *General Zoology, or Systematic Natural History.* Vol.3. G. Kearsley, Thomas Davison, London, England, UK. 303 pp.
- SILER, C. D., C. W. LINKEM, A. C. DIEMOS, AND A. C. ALCALA. 2007. A new species of *Platymantis* (Amphibia: Anura: Ranidae) from Panay Island, Philippines. *Herpetologica* 63:351–364.
- SILER, C. D., A. C. ALCALA, A. C. DIEMOS, AND R. M. BROWN. 2009a. A new species of limestone forest frog, genus *Platymantis* (Amphibia: Anura: Ceratobatrachidae) from eastern Samar Island, Philippines. *Herpetologica* 65:92–104.
- SILER, C. D., J. D. MCVAY, A. C. DIEMOS, AND R. M. BROWN. 2009b. A new species of fanged frog, genus *Limnonectes* (Amphibia: Anura: Dicroglossidae) from Southeast Mindanao Island, Philippines. *Herpetologica* 65:105–114.
- SILER, C. D., A. C. DIEMOS, C. W. LINKEM, M. L. DIEMOS, AND R. M. BROWN. 2010. A new species of limestone-forest frog, genus *Platymantis* (Amphibia: Anura: Ceratobatrachidae) from central Luzon Island, Philippines. *Zootaxa* 2482:49–63.
- SODHI, N. S., L. P. KOH, B.W. BROOK, AND P. K. L NG. 2004. Southeast Asian biodiversity: an impending disaster. *Trends in Ecology and Evolution* 19:654–660.
- STEJNEGER, L. 1905. Three new frogs and one new gecko from the Philippine Islands. *Proceedings of the United States National Museum* 28:343–348.
- STEJNEGER, L. 1908. Two new species of toads from the Philippines. *Proceedings of the United States National Museum* 33:573–576.
- STEJNEGER, L. 1910. Description of a new frog from the Philippine Islands. *Smithsonian Miscellaneous Collections* 52:437–439.
- STOLICZKA, F. 1870. Observations on some Indian and Malayan amphibia and reptilia. *Proceedings of the Asiatic Society of Bengal* 1870:105–109.
- SY, E. Y., J. C. MARTYR, AND A. C. DIEMOS. 2015. *Eleutherodactylus planirostris* (Greenhouse Frog) on

- Luzon, Philippines. *Herpetological Review* 46:56.
- SY, E. Y., D. VILLA-REAL, AND G. C. GAMOLO. 2014. *Kaloula pulchra* (Asiatic Painted Frog) on Cebu, Philippines. *Herpetological Review* 45:276–277.
- TAYLOR, E. H. 1920. Philippine Amphibia. *Philippine Journal of Science* 16:213–359.
- TAYLOR, E. H. 1922. Additions to the herpetological fauna of the Philippine Islands, I. *Philippine Journal of Science* 21:161–206.
- TAYLOR, E. H. 1923. Additions to the herpetological fauna of the Philippine Islands, III. *Philippine Journal of Science* 22:515–557.
- TAYLOR, E. H. 1960. On the caecilian species *Ichthyophis glutinosus* and *Ichthyophis monochrous*, with description of related species. *University of Kansas Science Bulletin* 40:37–120.
- TAYLOR, E. H., AND G. K. NOBLE. 1924. A new genus of discoglossid frogs from the Philippine Islands. *American Museum Novitates* 121:1–4.
- VAN OORT, P., AND S. MÜLLER. 1836. Aantekeningen gehouden op eene Reize over een Gedeelte van het Eiland Java, door de Leden der Natuurkundige Commissie. *Verhandelingen Bataviaasch Genootschap van Kunsten en Wetenschappen* 16:81–156.
- VON TSCHUDI, J. J. 1838. *Classification der Batrachier, mit berucksichtigung der fossilen Thiere dieser Abtheilung der Reptilien*. Petitpierre, Neuchâtel. 99 pp.
- WIEGMANN, A. F. A. 1834. Amphibien. Pages 433–522 in F. J. F. Meyen, ed., *Reise um die Erde ausgeführt auf dem Königlich Preussischen Seehandlungs-Schiffe Prinzes Louise, comandiert von Captain W. Wendt, in den Jahren 1830, 1831 und 1832 von Dr. F. J. F. Meyen. Dritter Theil. Zoologischer Bericht*. Sander'schen Buchhandlung (C. W. Eichhoff), Berlin, Germany.

#### AUTHOR CONTRIBUTIONS

CDS, RMB, ACD, and JLW conceived the ideas; ACD, NAH, ACA, RIC, LEA, GGD, RVS, MBS, MLD, EYS, LJW, RMB, and CDS participated in fieldwork; JLW, MBS, MLP, MJL, CSD, EAL, and CDS compiled and analyzed the dataset; NAH created the maps; DRD created the photo plates; JLW, NAH, DRD, RMB, and CDS revised analyzed the data; ACD and JLW led the writing; JLW, NAH, and CDS wrote the introduction and discussion; and JLW, CDS, NAH, DRD, and RMB edited drafts of the manuscript.





**Distribution Maps and Photographs**

**Figures 2–44**

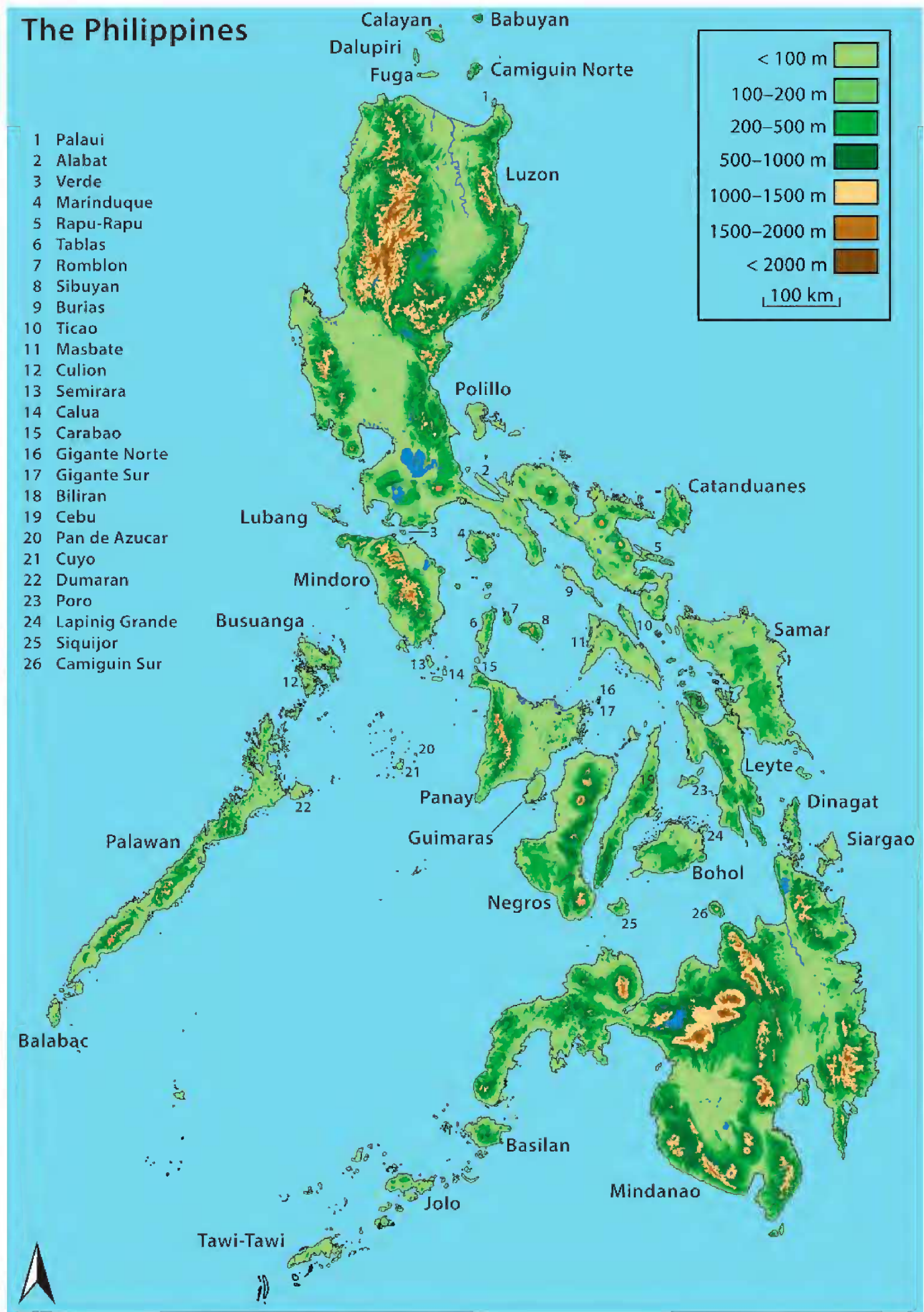


FIGURE 2. Topographic map of the Philippine archipelago, with island names provided for larger islands. Numeric labels for smaller islands correspond to inset key.

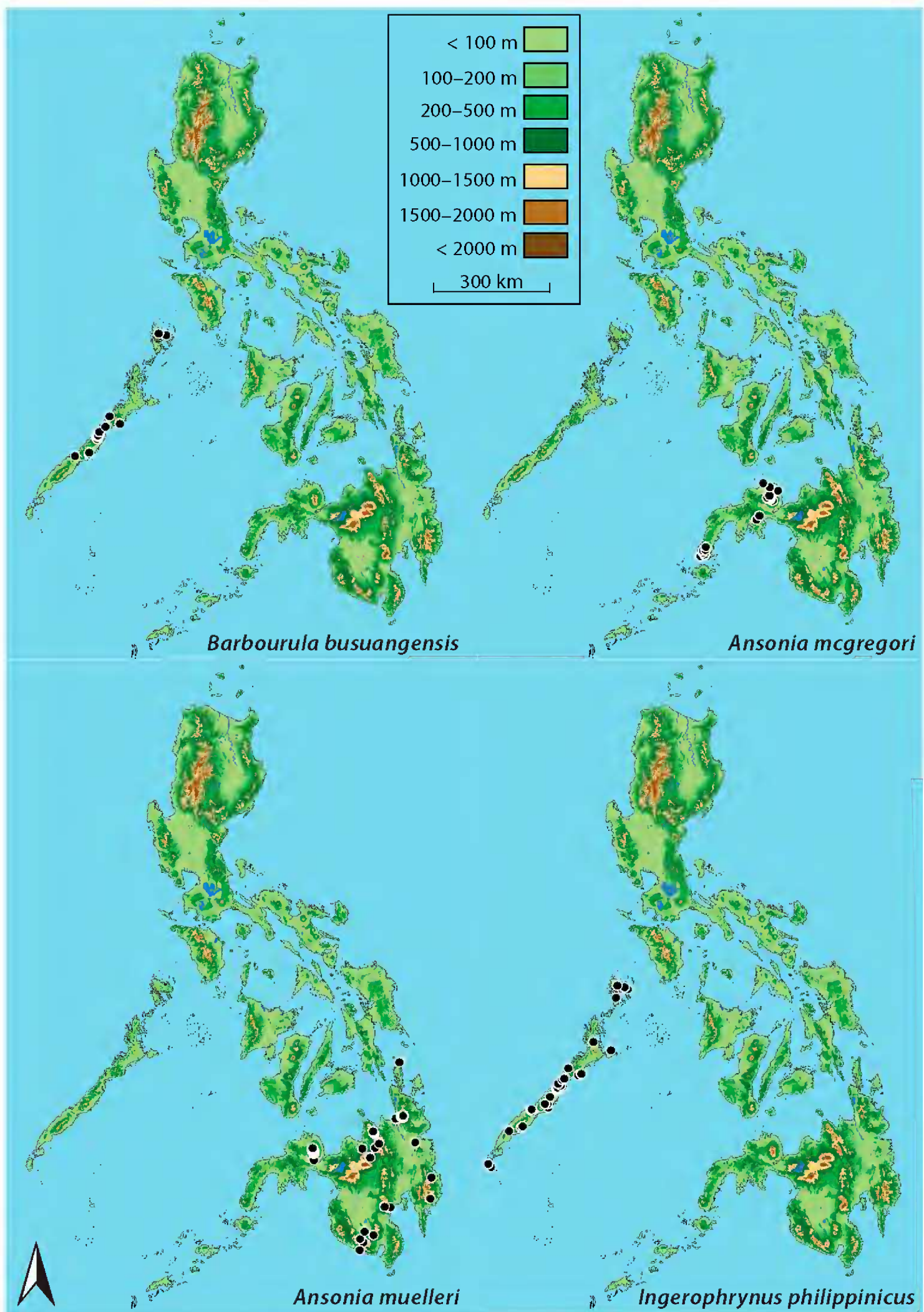


FIGURE 3. Geographic range maps for members of the families Bombinatoridae (*Barbourula busuangensis*), and Bufonidae (*Ansonia mcgregori*, *A. muelleri*, and *Ingerophrynus philippinicus*). Points represent museum vouchered specimens with georeferenced locality information overlaid on a topographic map of the Philippines.

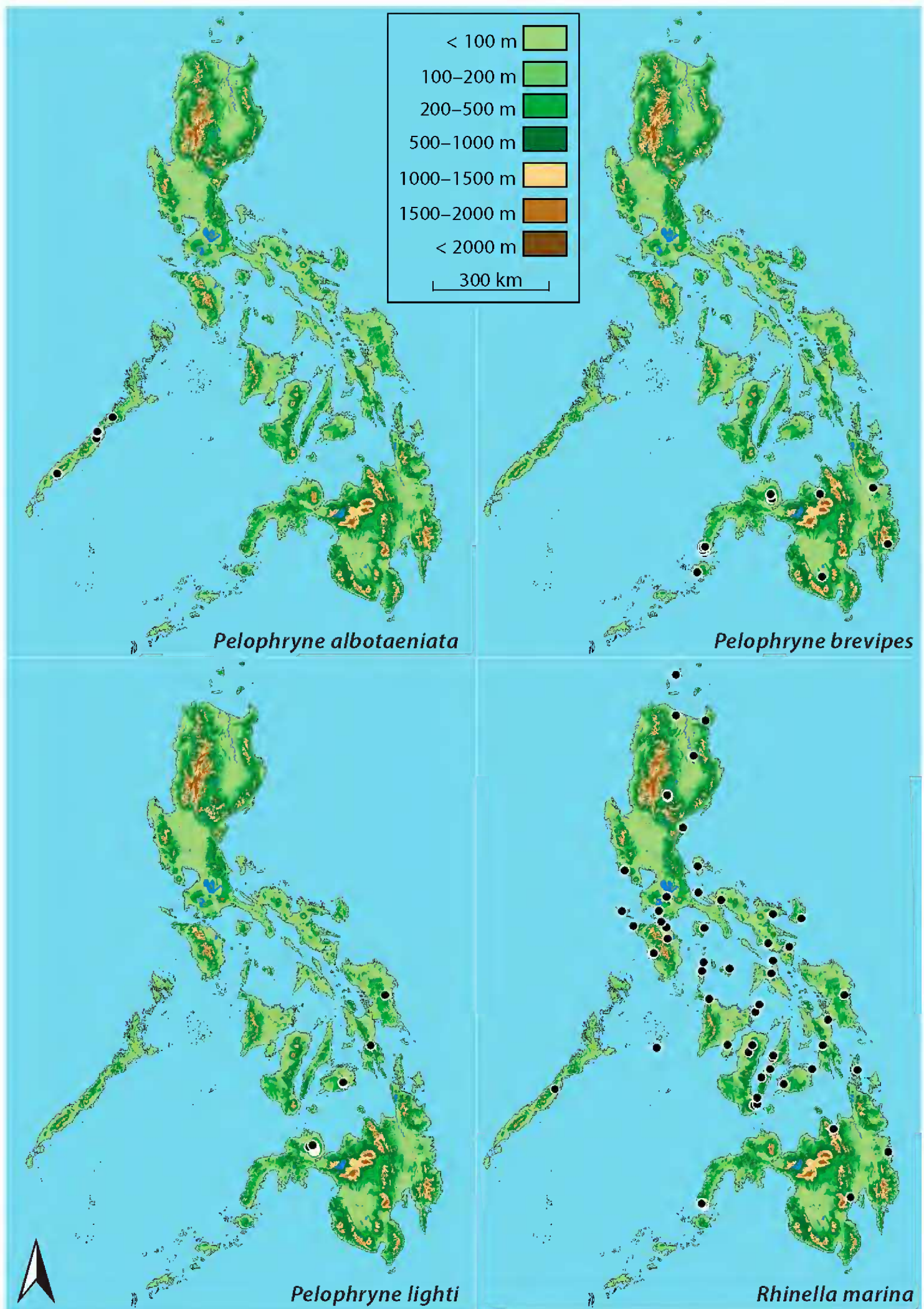


FIGURE 4. Geographic range maps for members of the family Bufonidae (*Pelophryne albotaeniata*, *P. brevipes*, *P. lighti*, and *Rhinella marina*). Points represent museum vouchered specimens with georeferenced locality information overlaid on a topographic map of the Philippines.

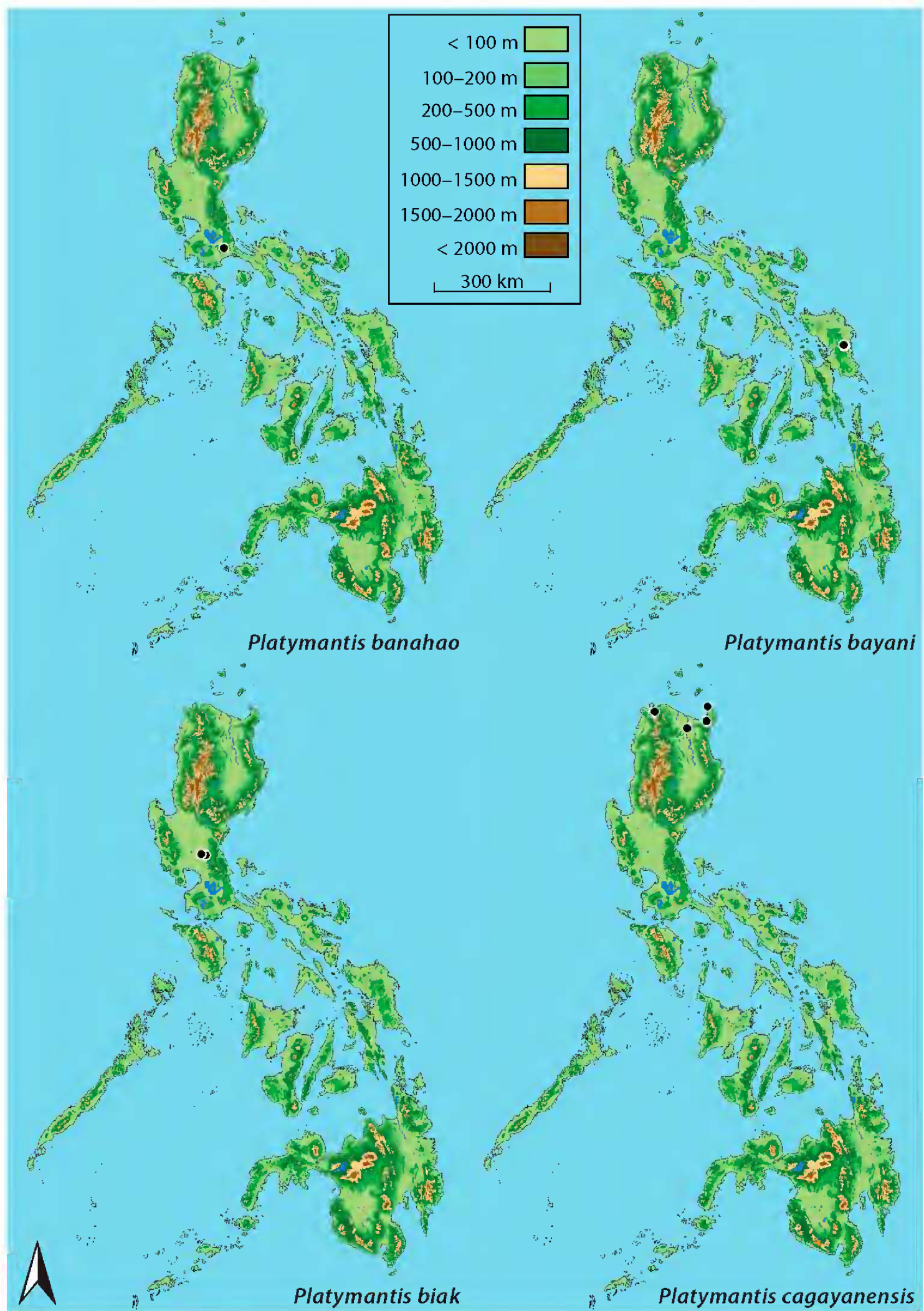


FIGURE 5. Geographic range maps for members of the family Ceratobatrachidae (*Platymantis banahao*, *P. bayani*, *P. biak*, and *P. cagayanensis*). Points represent museum vouchered specimens with georeferenced locality information overlaid on a topographic map of the Philippines.

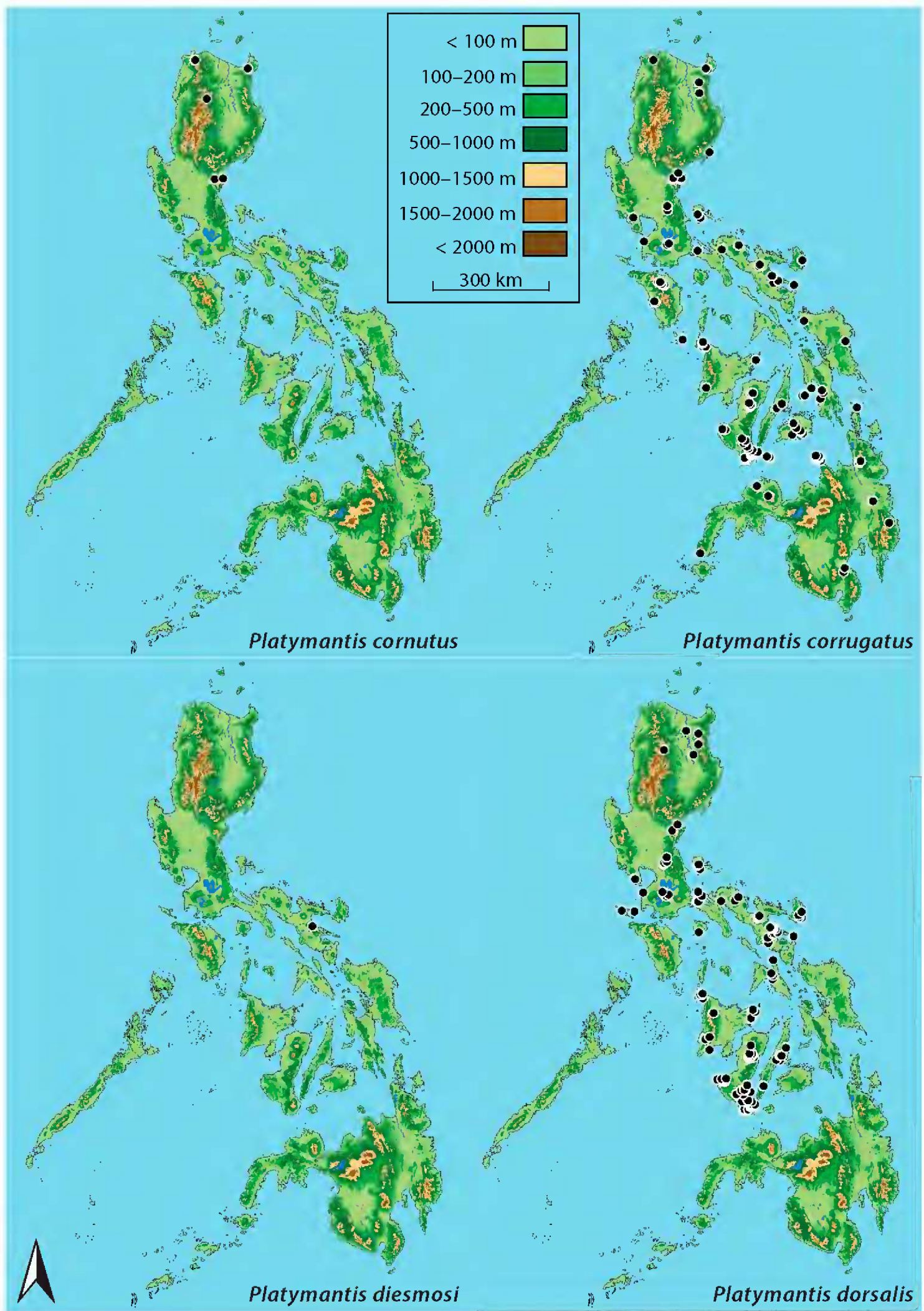


FIGURE 6. Geographic range maps for members of the family Ceratobatrachidae (*Platymantis cornutus*, *P. corrugatus*, *P. diesmosi*, and *P. dorsalis*). Points represent museum vouchered specimens with georeferenced locality information overlaid on a topographic map of the Philippines.

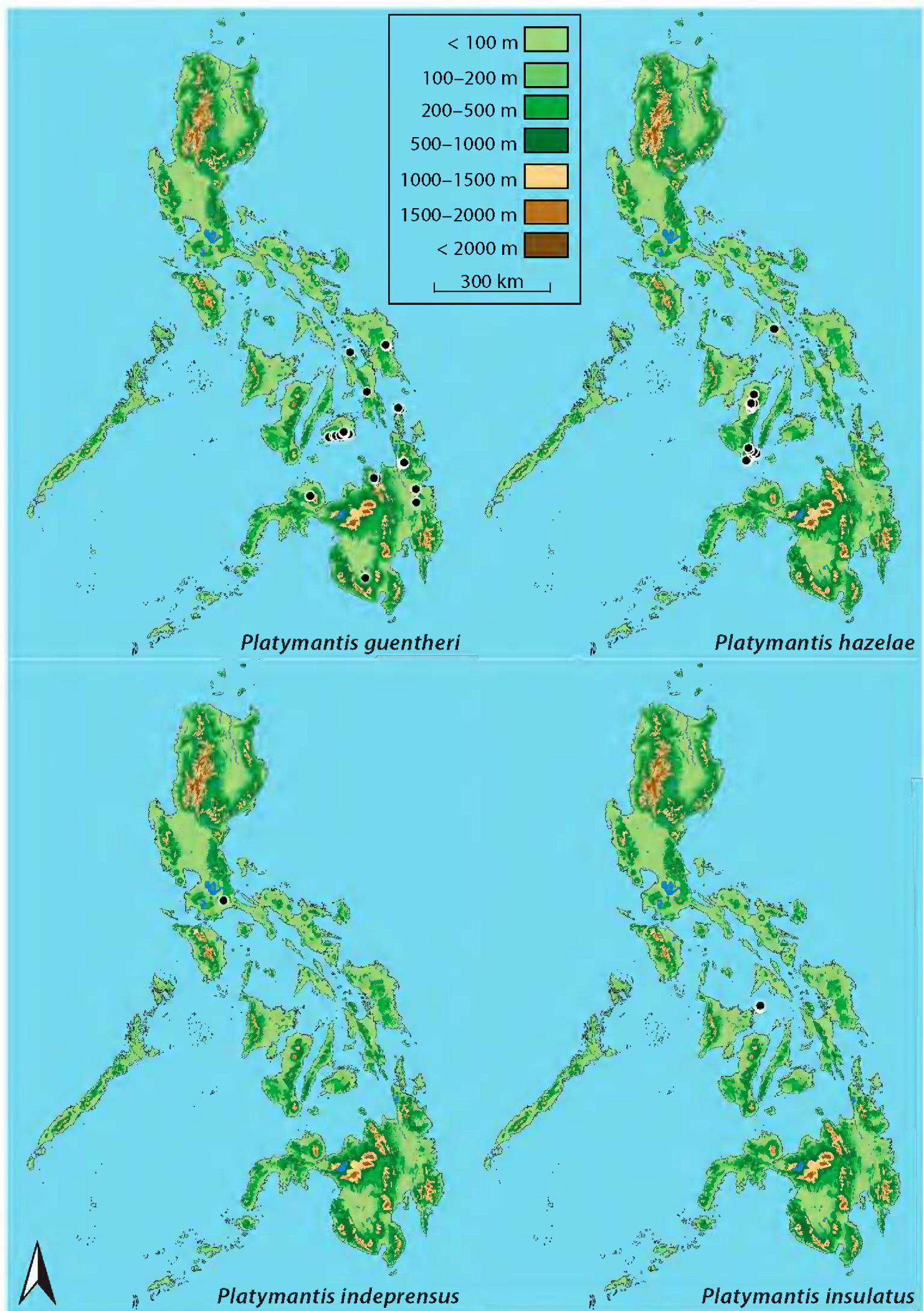


FIGURE 7. Geographic range maps for members of the family Ceratobatrachidae (*Platymantis guentheri*, *P. hazelae*, *P. indepressus*, and *P. insulatus*). Points represent museum vouchered specimens with georeferenced locality information overlaid on a topographic map of the Philippines.

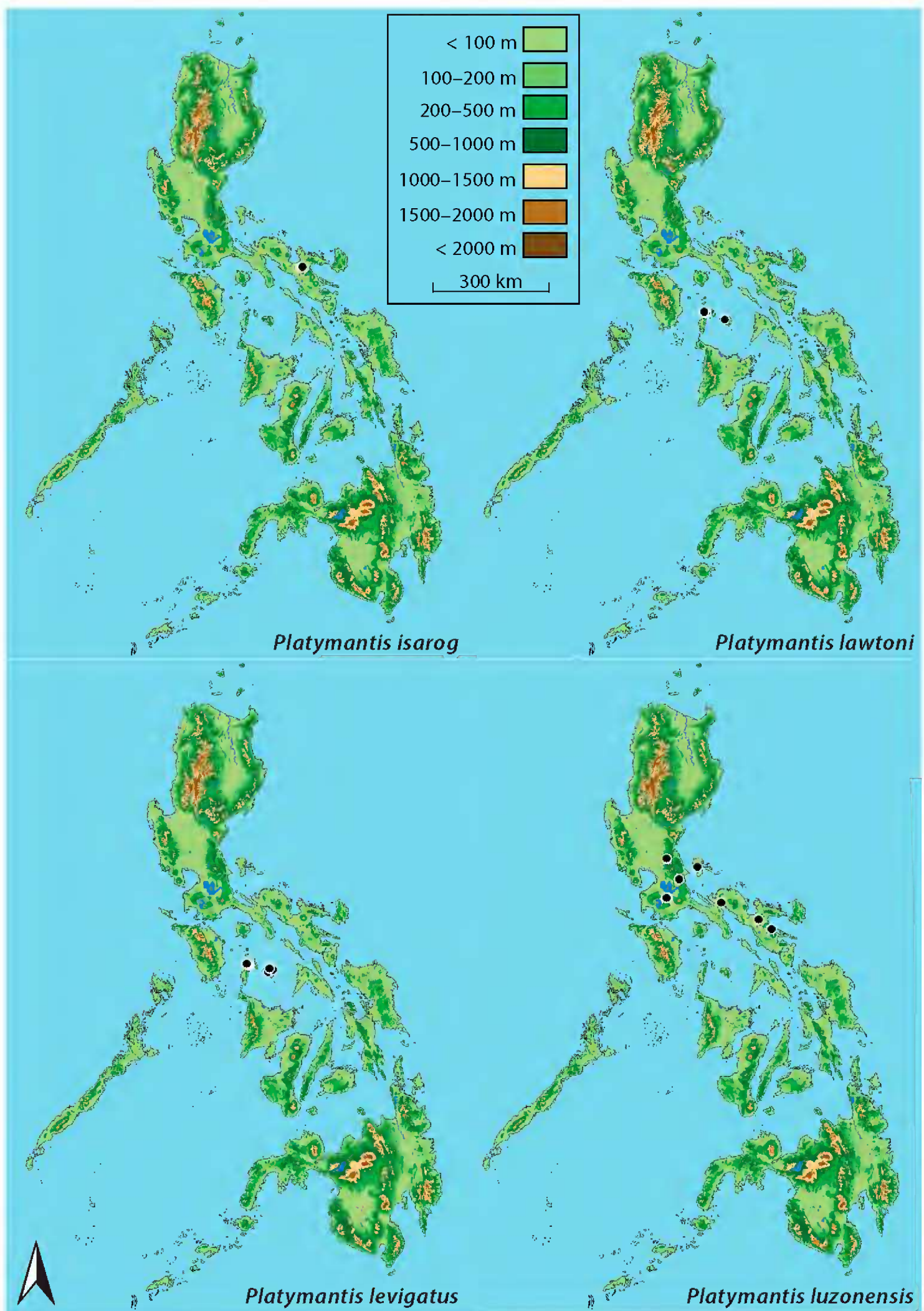


FIGURE 8. Geographic range maps for members of the family Ceratobatrachidae (*Platymantis isarog*, *P. lawtoni*, *P. levigatus*, and *P. luzonensis*). Points represent museum vouchered specimens with georeferenced locality information overlaid on a topographic map of the Philippines.



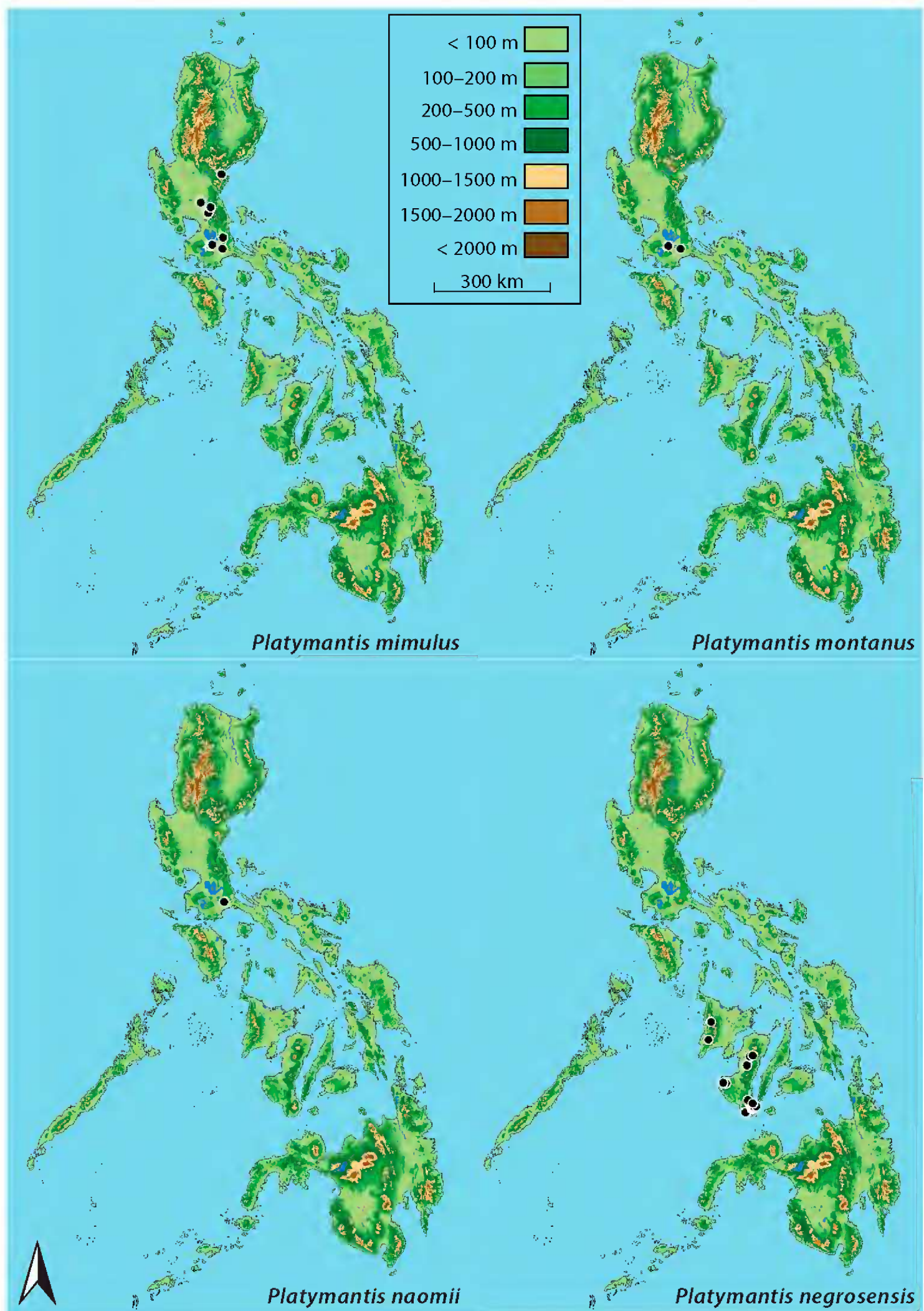


FIGURE 9. Geographic range maps for members of the family Ceratobatrachidae (*Platymantis mimulus*, *P. montanus*, *P. naomii*, and *P. negrosensis*). Points represent museum vouchered specimens with georeferenced locality information overlaid on a topographic map of the Philippines.

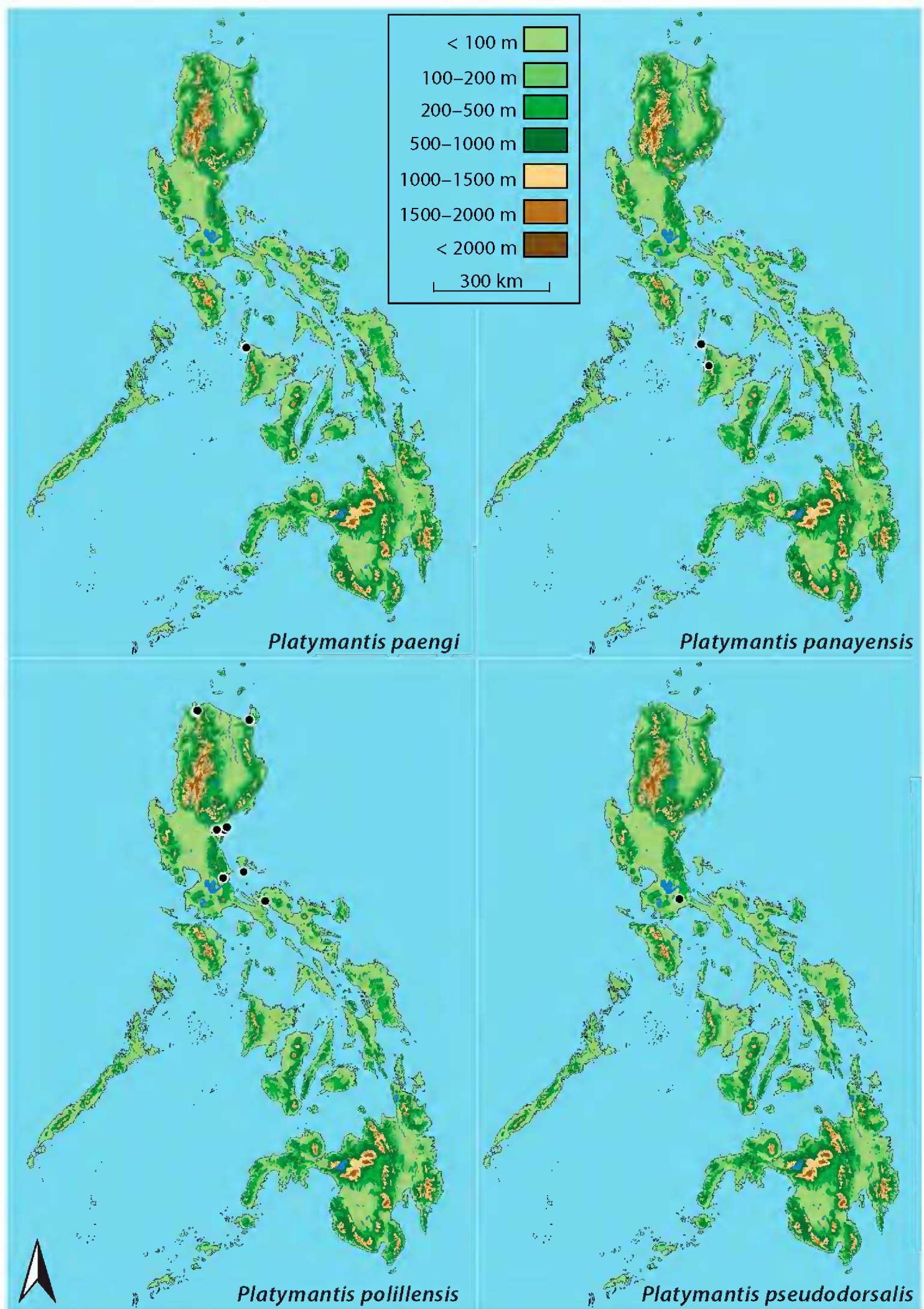


FIGURE 10. Geographic range maps for members of the family Ceratobatrachidae (*Platymantis paengi*, *P. panayensis*, *P. polillensis*, and *P. pseudodorsalis*). Points represent museum vouchered specimens with georeferenced locality information overlaid on a topographic map of the Philippines.

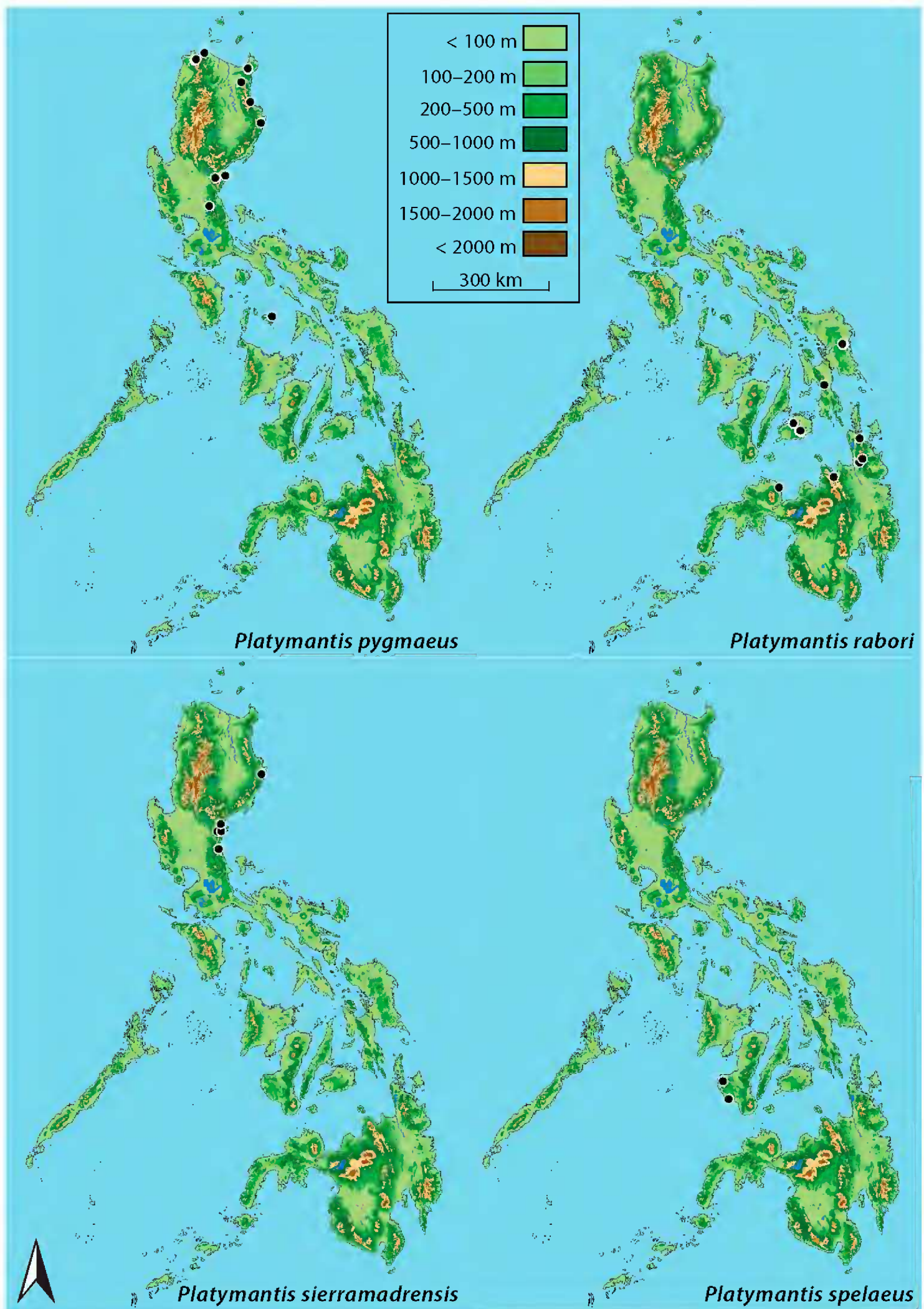


FIGURE 11. Geographic range maps for members of the family Ceratobatrachidae (*Platymantis pygmaeus*, *P. rabori*, *P. sierramadrensis*, and *P. spelaeus*). Points represent museum vouchered specimens with georeferenced locality information overlaid on a topographic map of the Philippines.

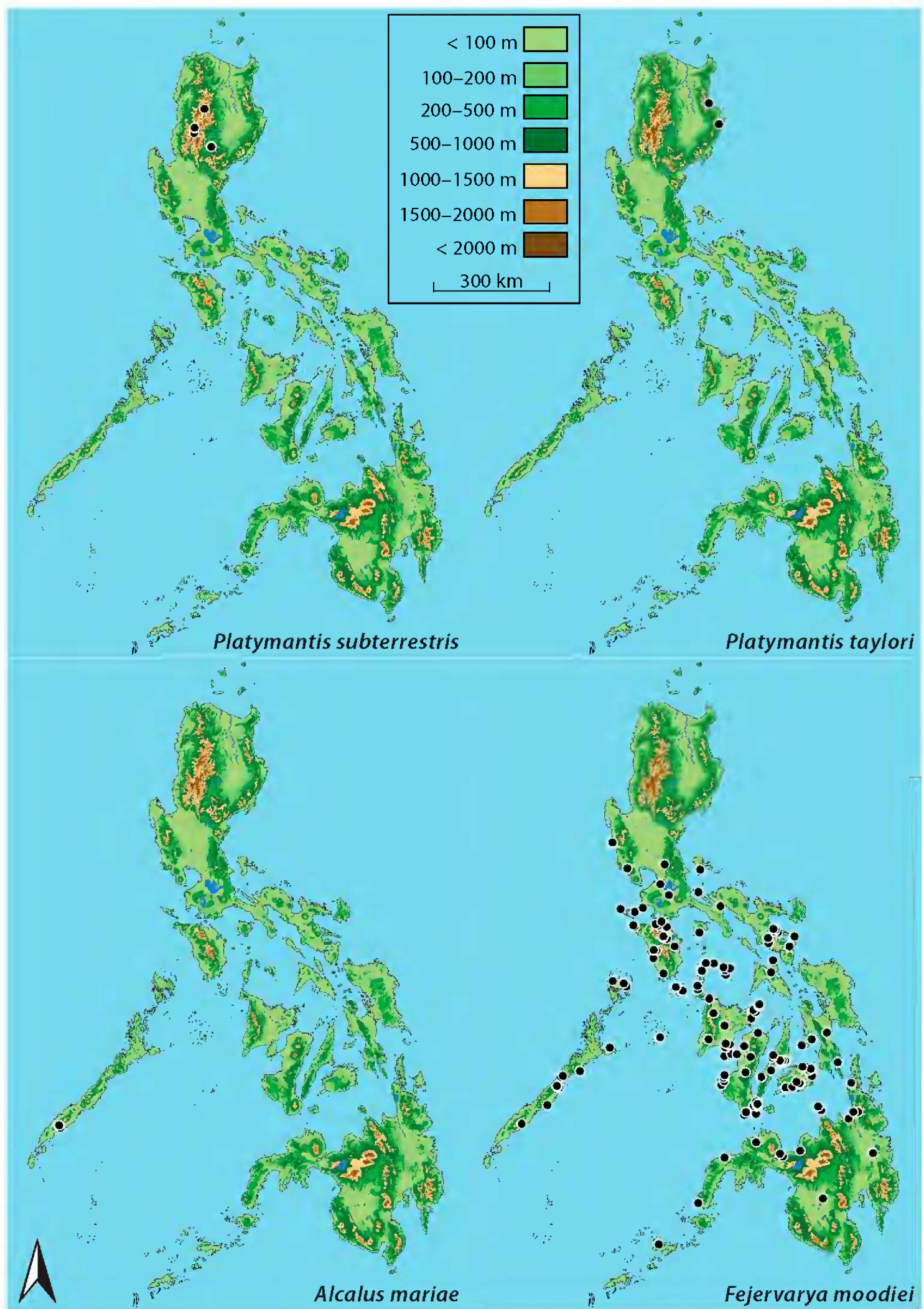


FIGURE 12. Geographic range maps for members of the families Ceratobatrachidae (*Platymantis subterrestris*, *P. taylori*, and *Alcalus mariae*) and Dicroglossidae (*Fejervarya moodiei*). Points represent museum vouchered specimens with georeferenced locality information overlaid on a topographic map of the Philippines.

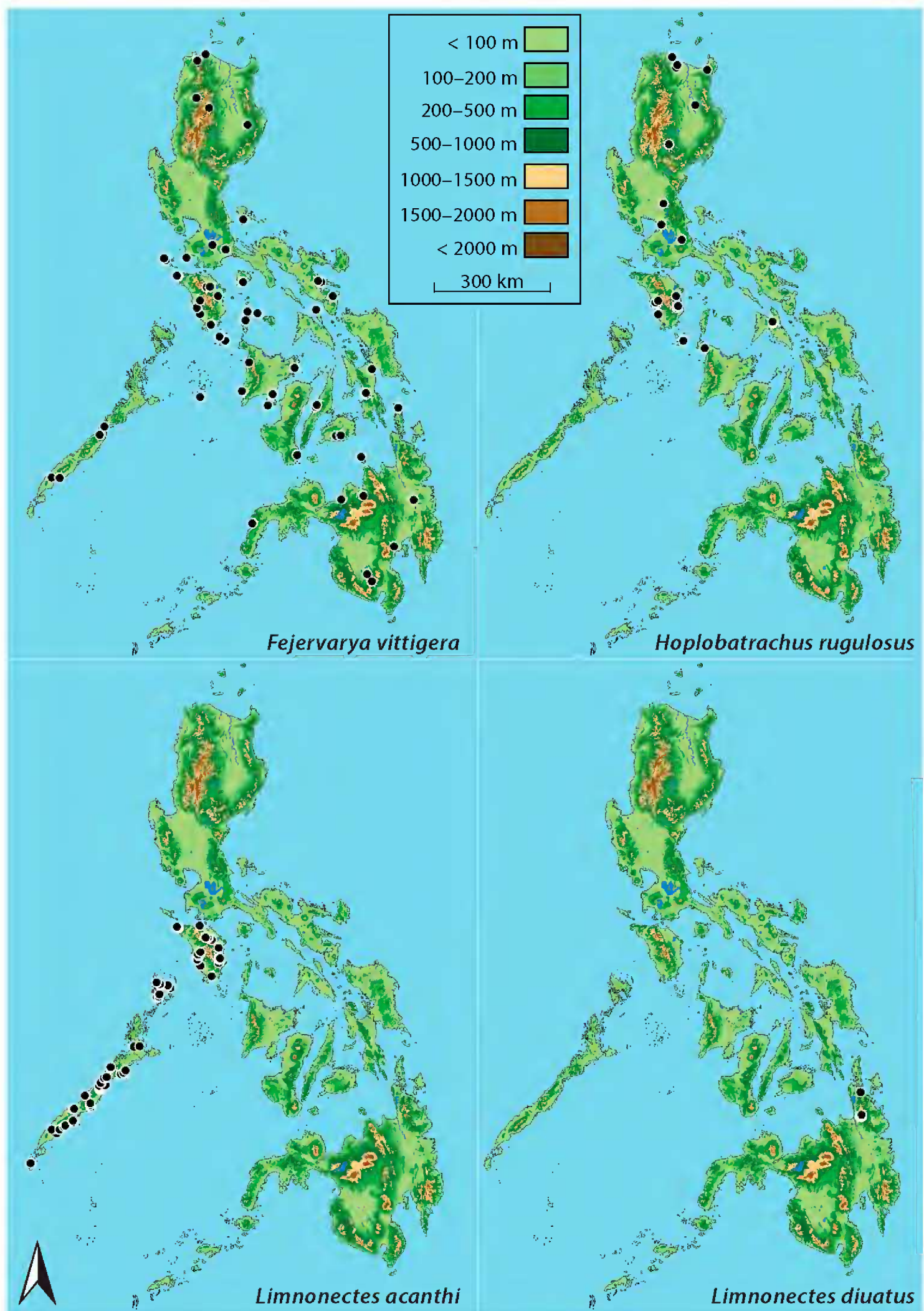


FIGURE 13. Geographic range maps for members of the family Dicroglossidae (*Fejervarya vittigera*, *Hoplobatrachus rugulosus*, *Limnonectes acanthi*, and *L. diuatus*). Points represent museum vouchered specimens with georeferenced locality information overlaid on a topographic map of the Philippines.

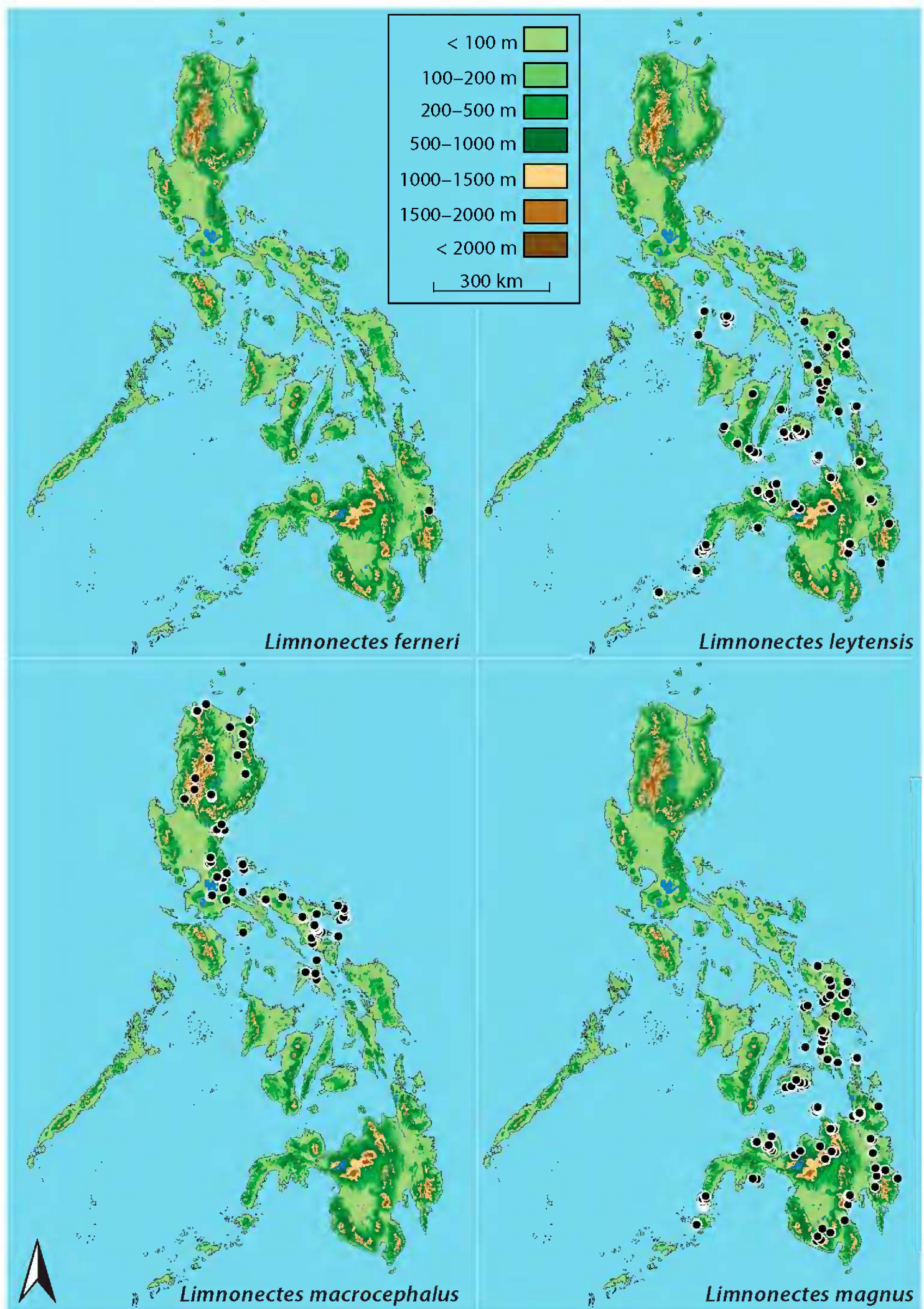


FIGURE 14. Geographic range maps for members of the family Dicroglossidae (*Limnonectes feneri*, *L. leytensis*, *L. macrocephalus*, and *L. magnus*). Points represent museum vouchered specimens with georeferenced locality information overlaid on a topographic map of the Philippines.

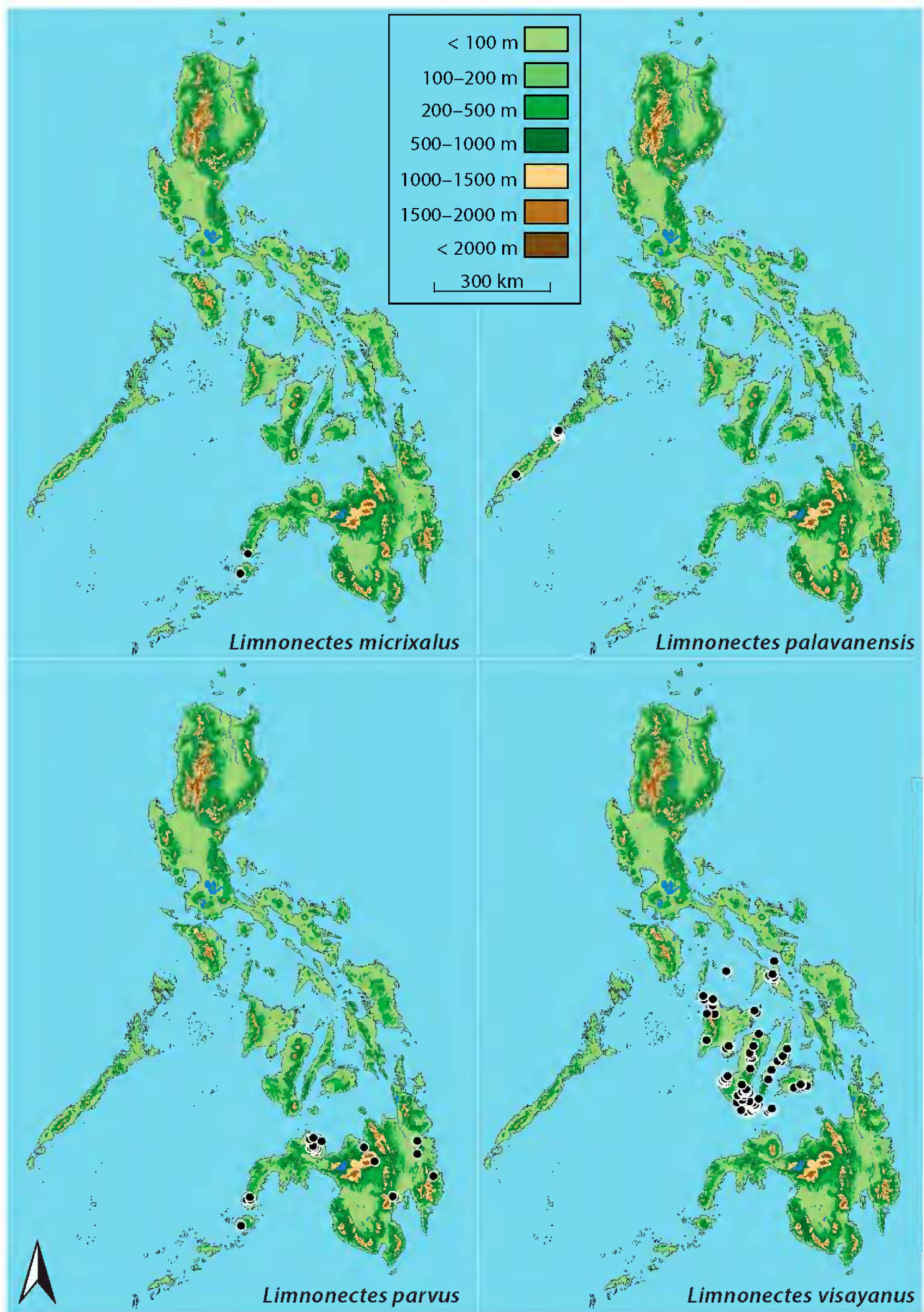


FIGURE 15. Geographic range maps for members of the family Dicroglossidae (*Limnonectes micrixalus*, *L. palavanensis*, *L. parvus*, and *L. visayanus*). Points represent museum vouchered specimens with georeferenced locality information overlaid on a topographic map of the Philippines.

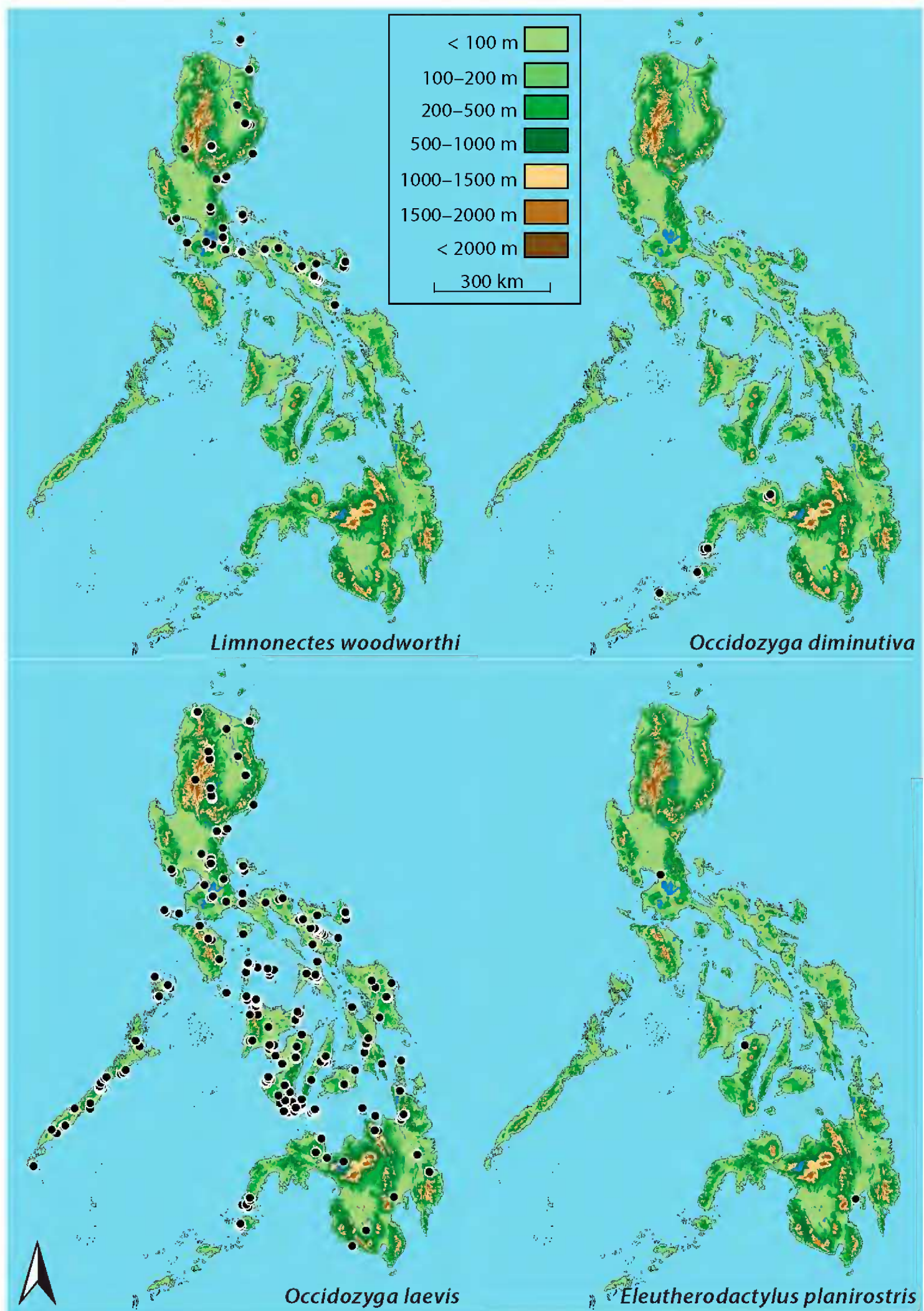


FIGURE 16. Geographic range maps for members of the families Dicoglossidae (*Limnonectes woodworthi*, *Occidozyga diminutiva*, and *O. laevis*), and Eleutherodactylidae (*Eleutherodactylus planirostris*). Points represent museum vouchered specimens with georeferenced locality information overlaid on a topographic map of the Philippines.



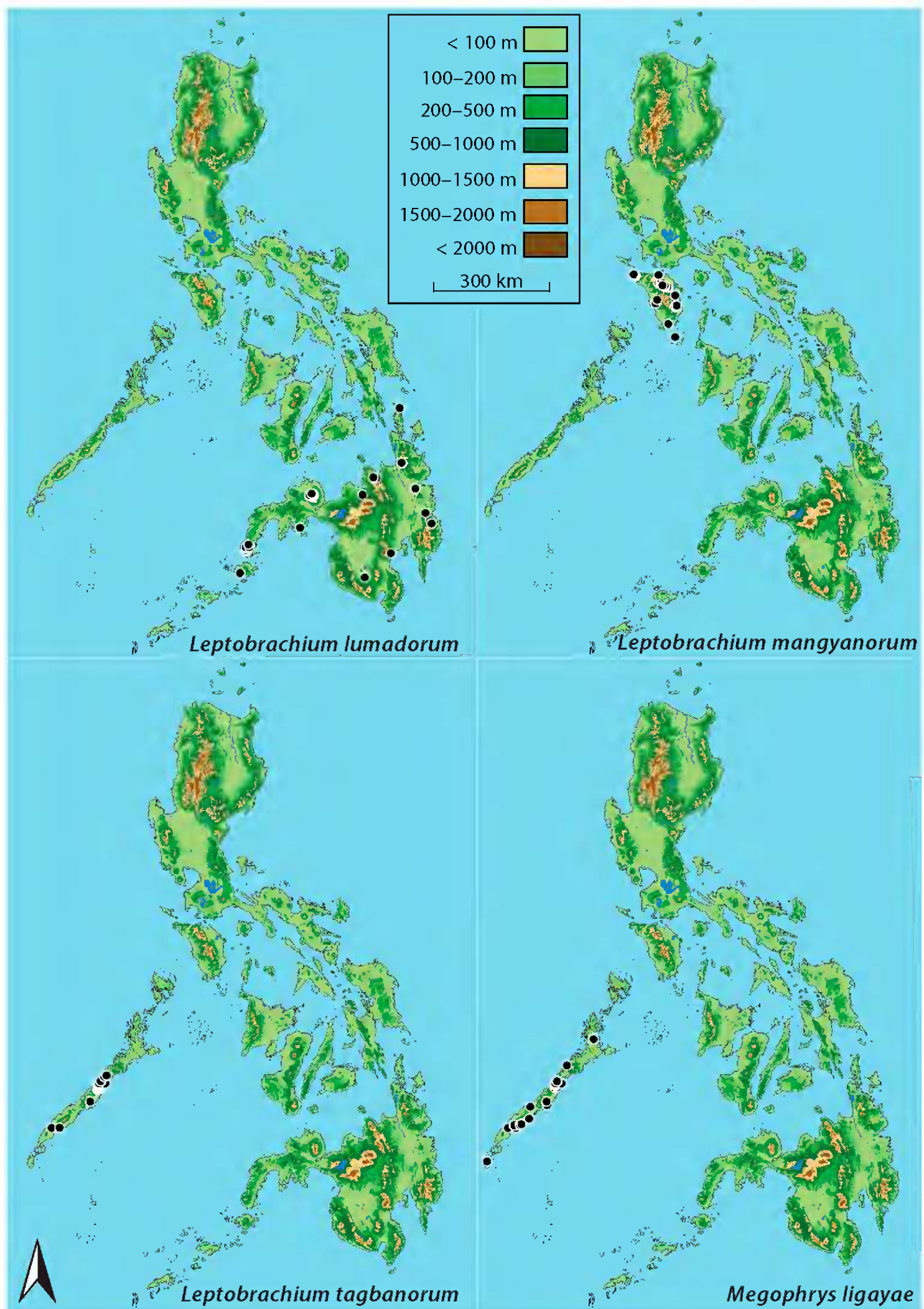


FIGURE 17. Geographic range maps for members of the family Megophryidae (*Leptobrachium lumadorum*, *L. mangyanorum*, *L. tagbanorum*, and *Megophrys ligayae*). Points represent museum vouchered specimens with georeferenced locality information overlaid on a topographic map of the Philippines.

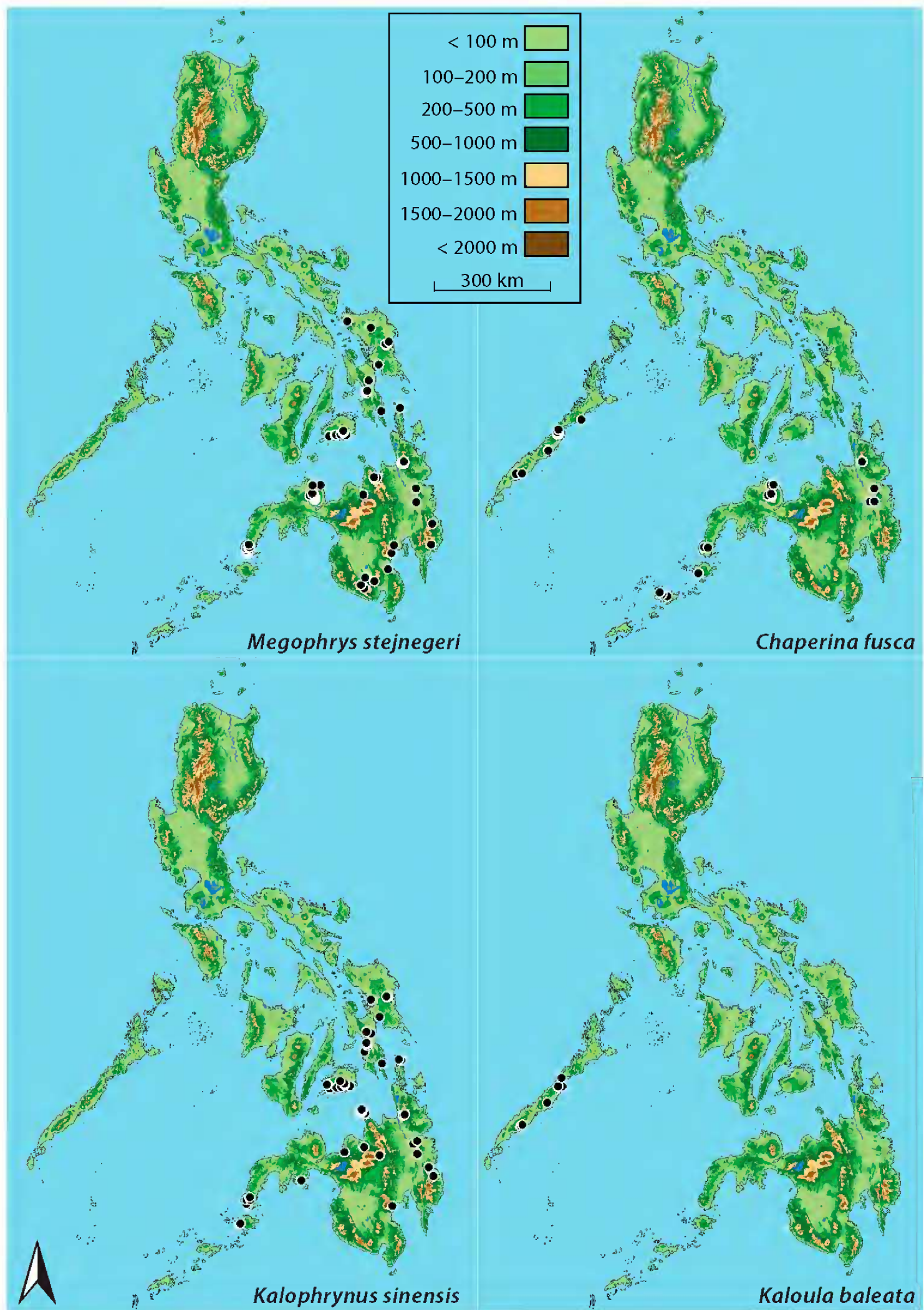


FIGURE 18. Geographic range maps for members of the families Megophryidae (*Megophrys stejnegeri*), and Microhylidae (*Chaperina fusca*, *Kalophrynus sinensis*, and *Kaloula baleata*). Points represent museum vouchered specimens with georeferenced locality information overlaid on a topographic map of the Philippines.

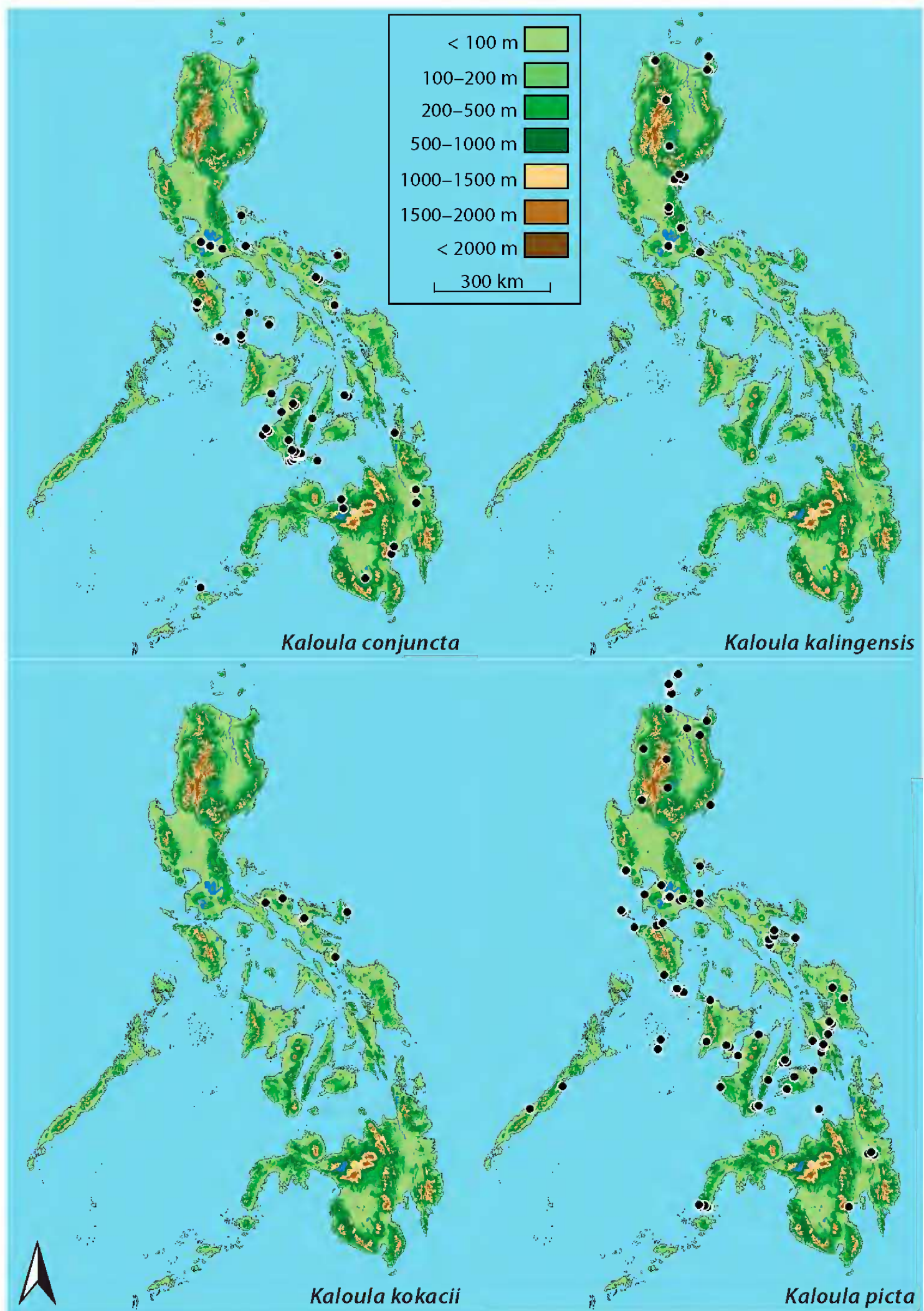


FIGURE 19. Geographic range maps for members of the family Microhylidae (*Kaoula conjuncta*, *K. kalingensis*, *K. kokacii*, and *K. picta*). Points represent museum vouchered specimens with georeferenced locality information overlaid on a topographic map of the Philippines.

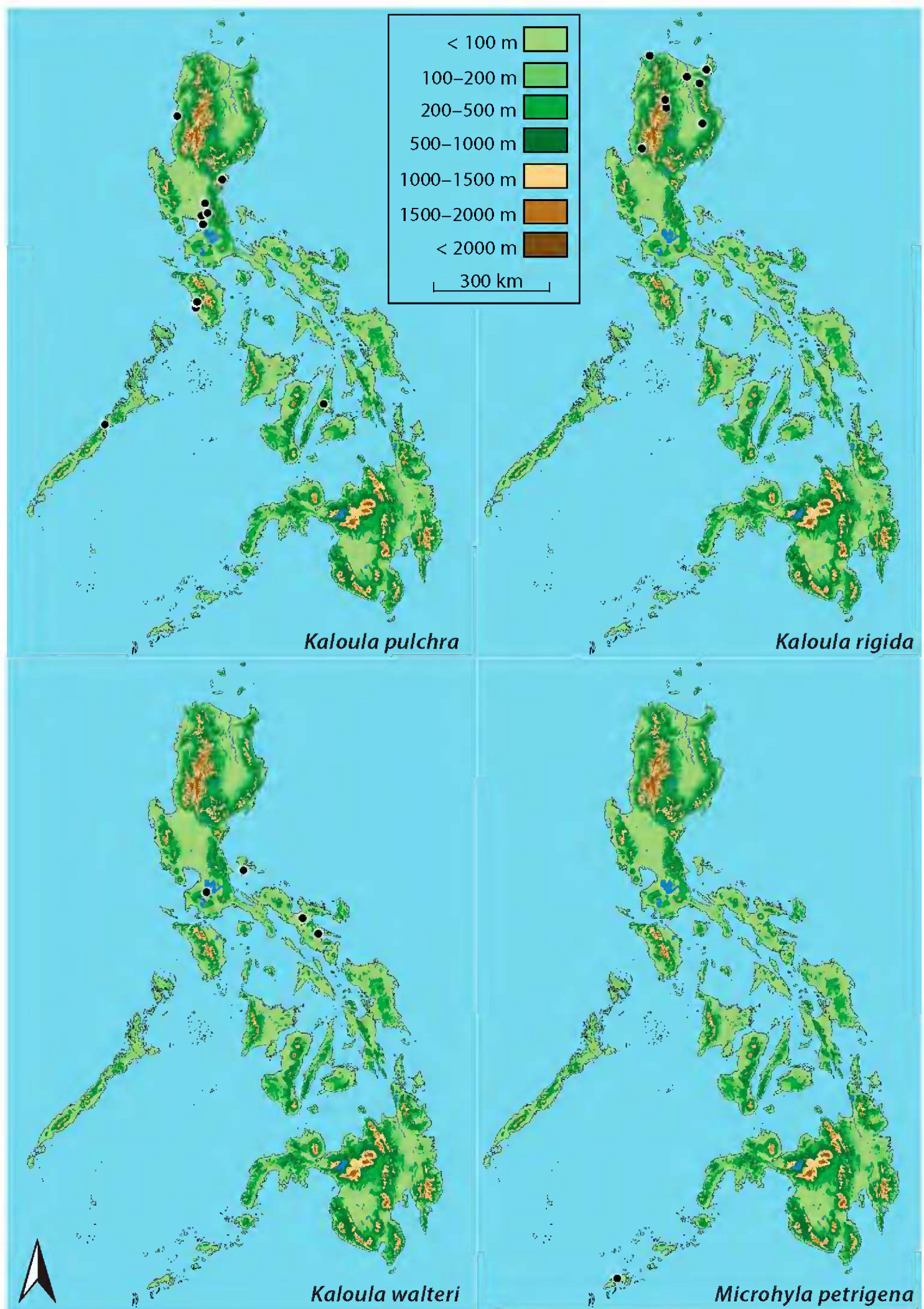


FIGURE 20. Geographic range maps for members of the family Microhylidae (*Kaloula pulchra*, *K. rigida*, *K. walteri*, and *Microhyla petrigena*). Points represent museum vouchered specimens with georeferenced locality information overlaid on a topographic map of the Philippines.

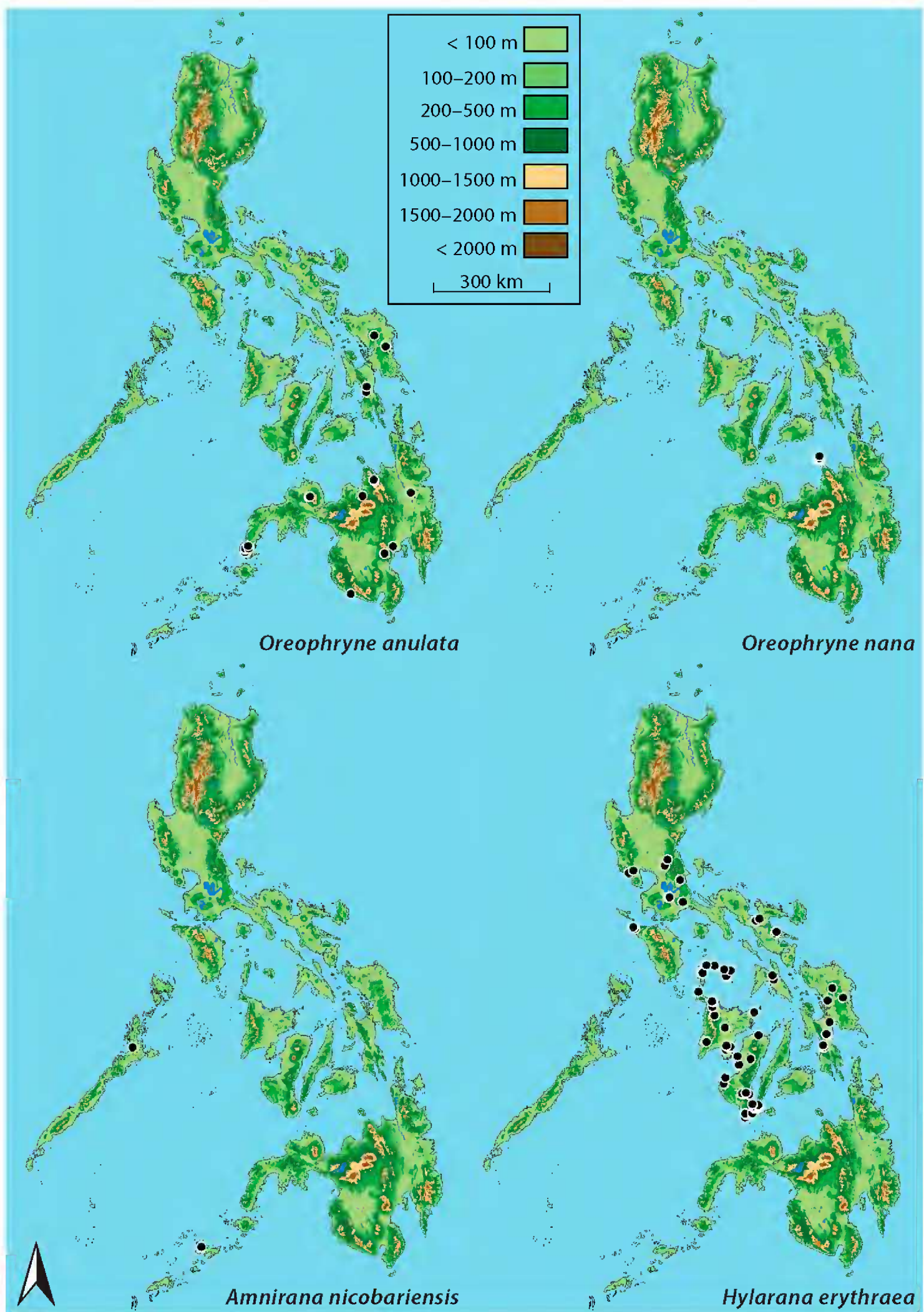


FIGURE 21. Geographic range maps for members of the families Microhylidae (*Oreophryne anulata* and *O. nana*), and Ranidae (*Amnirana nicobariensis* and *Hylarana erythraea*). Points represent museum vouchered specimens with georeferenced locality information overlaid on a topographic map of the Philippines.

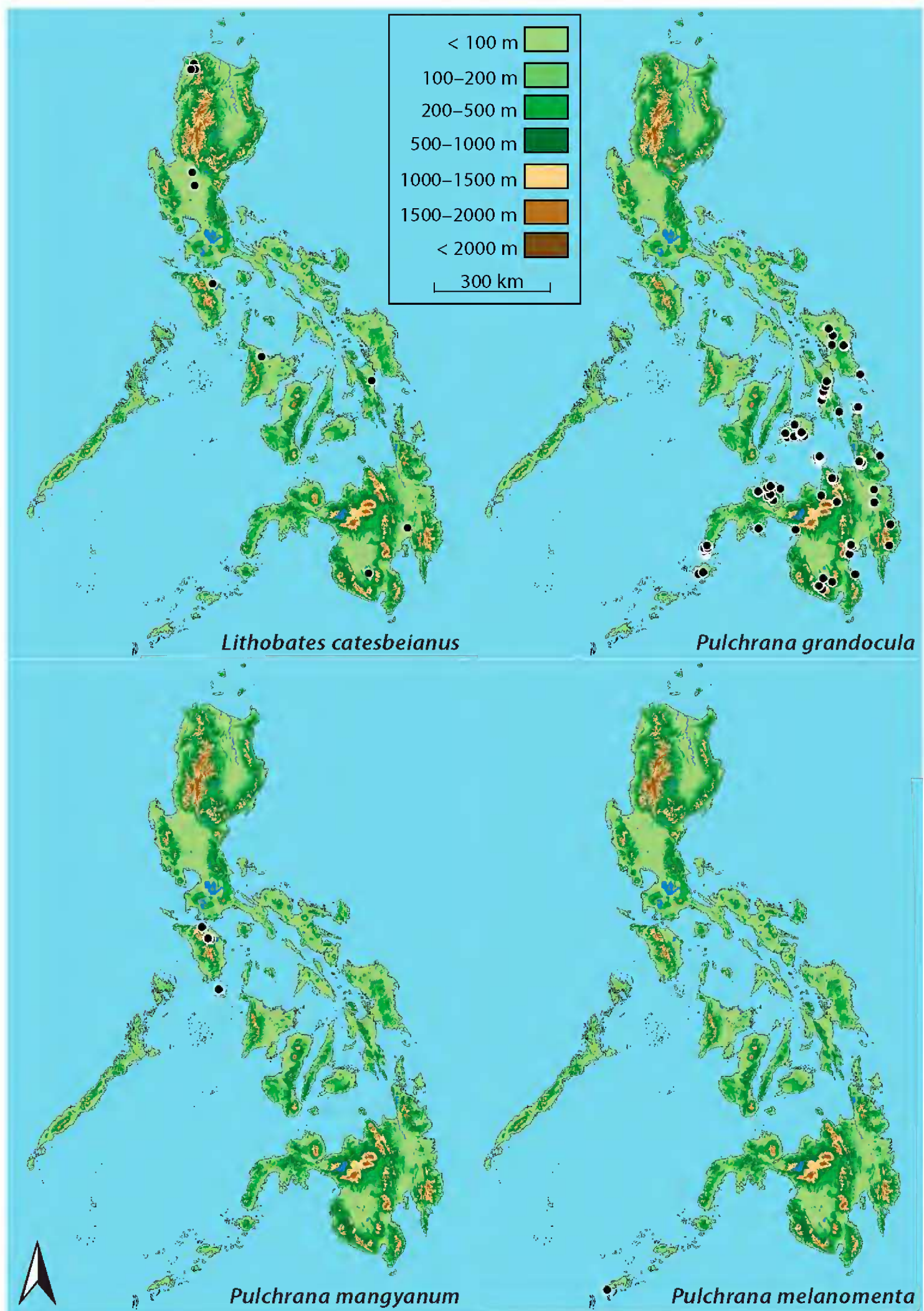


FIGURE 22. Geographic range maps for members of the family Ranidae (*Lithobates catesbeianus*, *Pulchrana grandocula*, *P. mangyanum*, and *P. melanomenta*). Points represent museum vouchered specimens with georeferenced locality information overlaid on a topographic map of the Philippines.

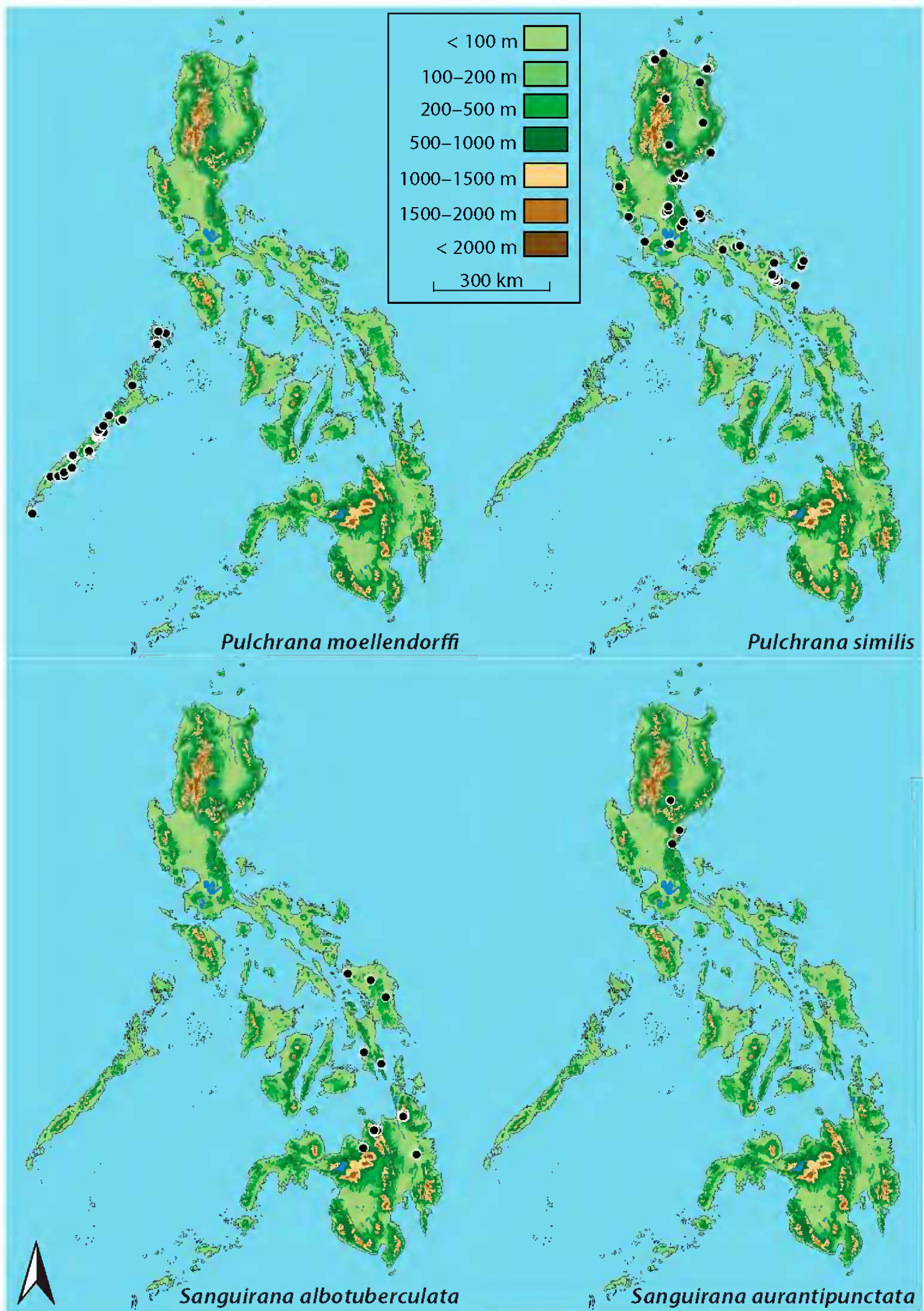


FIGURE 23. Geographic range maps for members of the family Ranidae (*Pulchrana moellendorffi*, *P. similis*, *Sanguirana albotuberculata*, and *S. aurantipunctata*). Points represent museum vouchered specimens with georeferenced locality information overlaid on a topographic map of the Philippines.

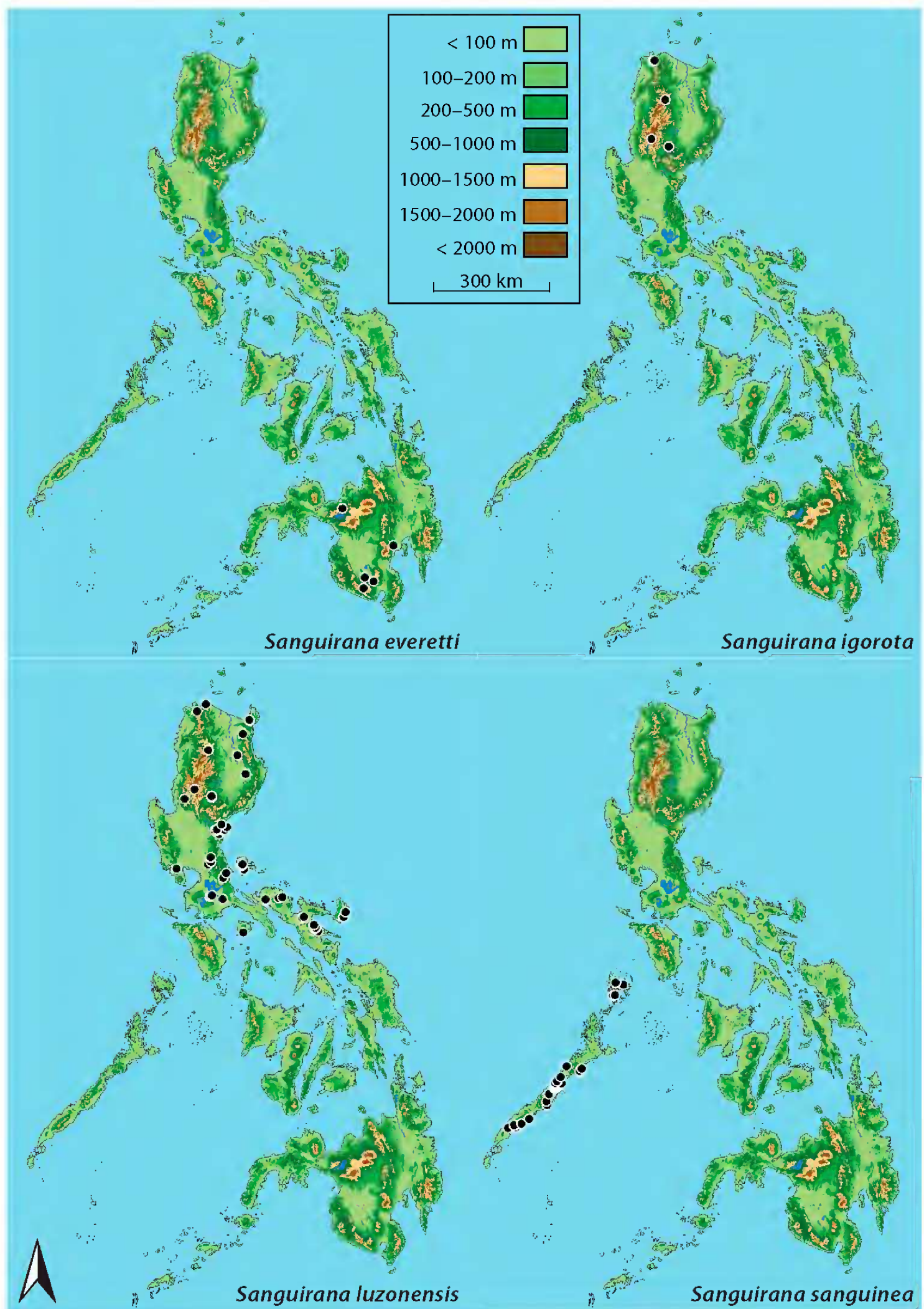


FIGURE 24. Geographic range maps for members of the family Ranidae (*Sanguirana everetti*, *S. igorota*, *S. luzonensis*, and *S. sanguinea*). Points represent museum vouchered specimens with georeferenced locality information overlaid on a topographic map of the Philippines.



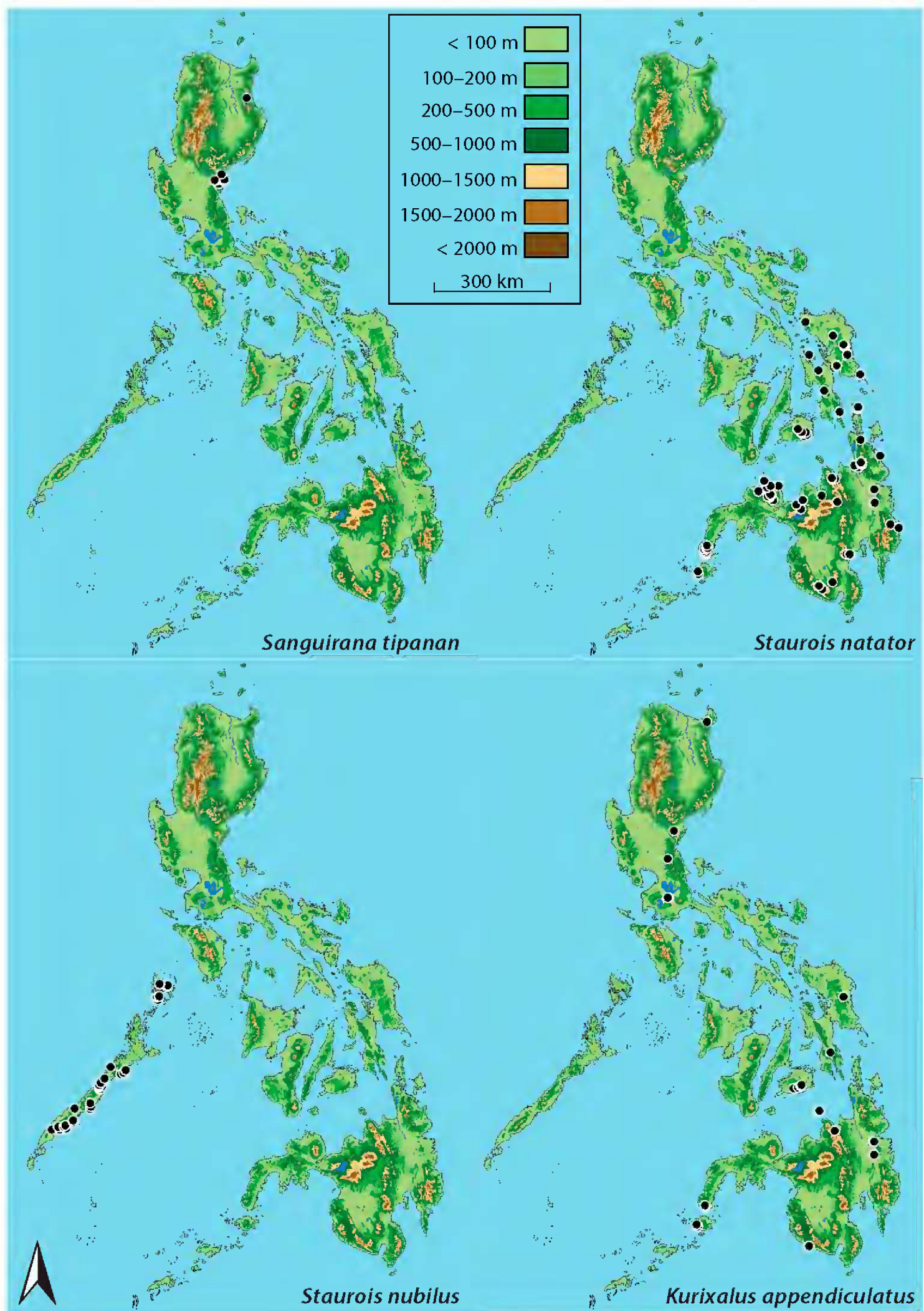


FIGURE 25. Geographic range maps for members of the families Ranidae (*Sanguirana tipanan*, *Staurois natator*, and *S. nubilus*), and Rhacophoridae (*Kurixalus appendiculatus*). Points represent museum vouchered specimens with georeferenced locality information overlaid on a topographic map of the Philippines.

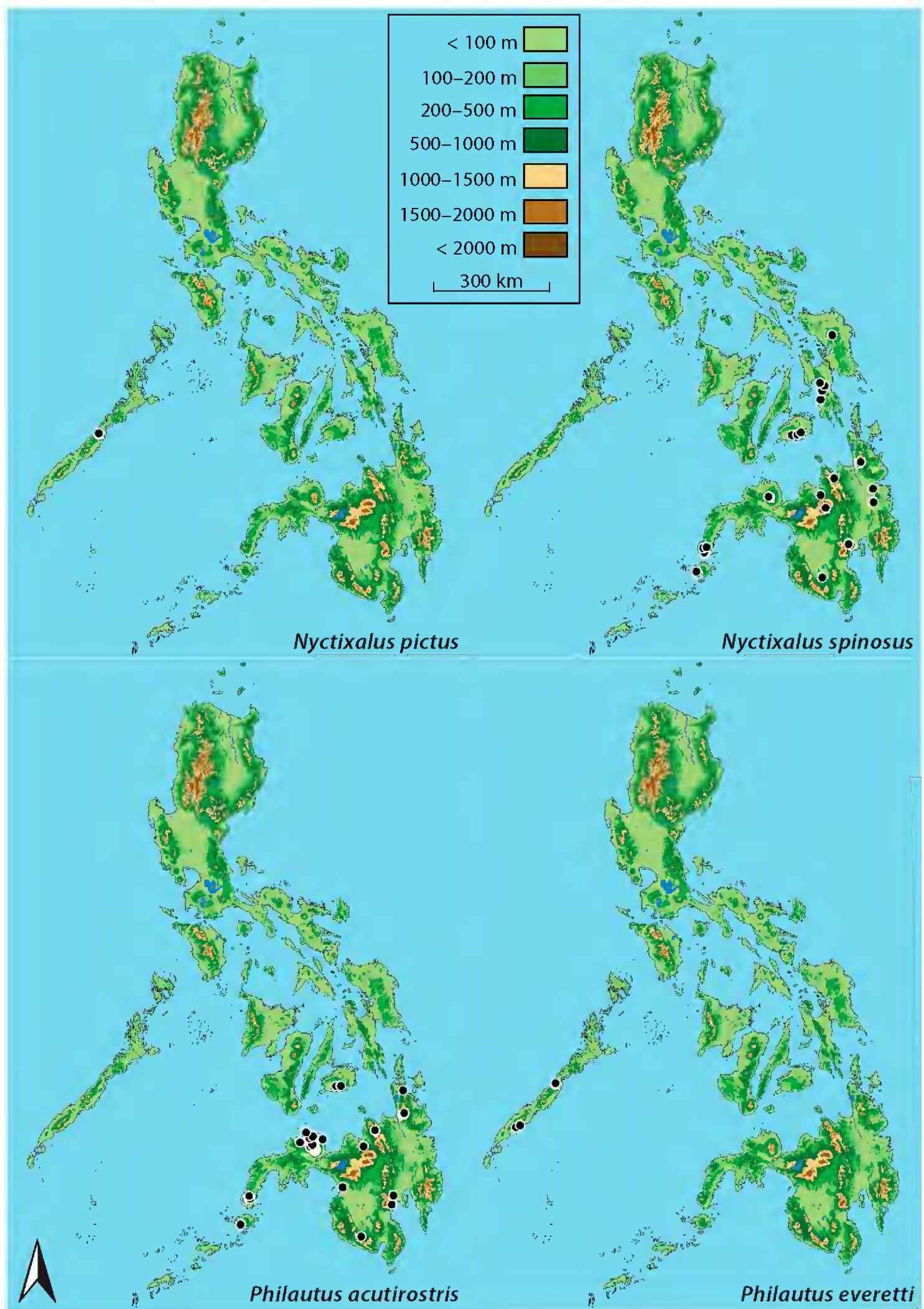


FIGURE 26. Geographic range maps for members of the family Rhacophoridae (*Nyctixalus pictus*, *N. spinosus*, *Philautus acutirostris*, and *P. everetti*). Points represent museum vouchered specimens with georeferenced locality information overlaid on a topographic map of the Philippines.

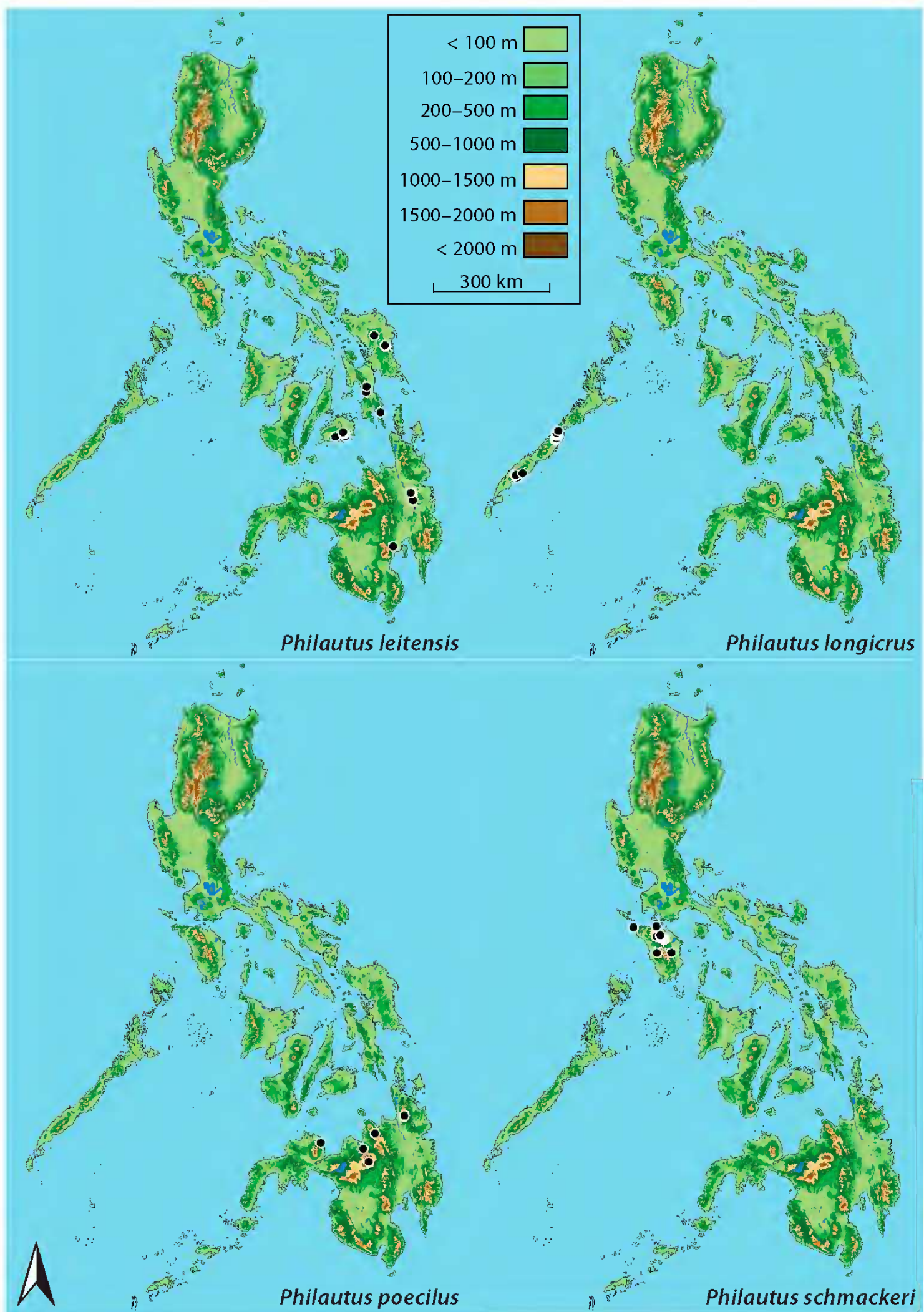


FIGURE 27. Geographic range maps for members of the family Rhacophoridae (*Philautus leitensis*, *P. longicrus*, *P. poecilus*, and *P. schmackeri*). Points represent museum vouchered specimens with georeferenced locality information overlaid on a topographic map of the Philippines.

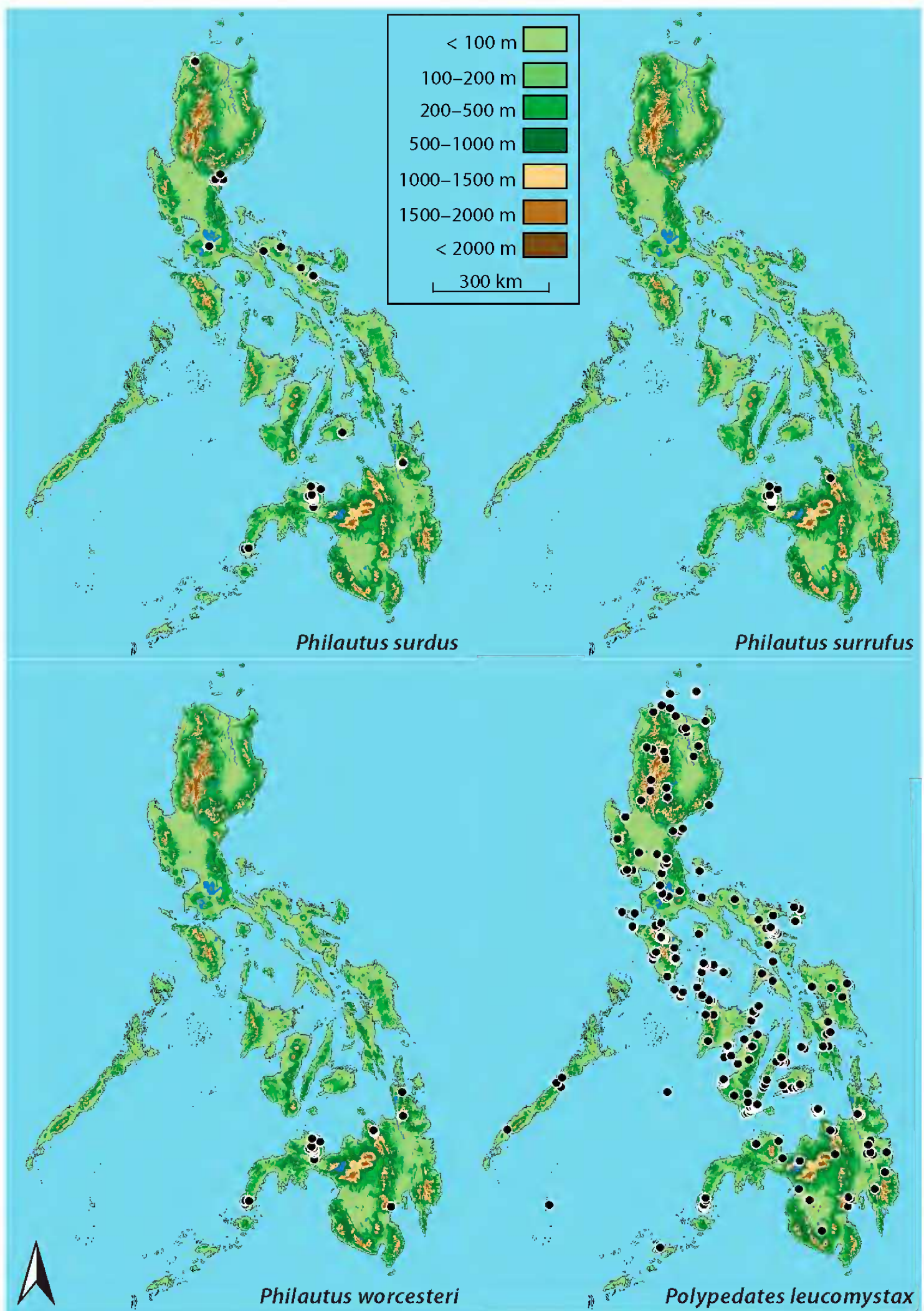


FIGURE 28. Geographic range maps for members of the family Rhacophoridae (*Philautus surdus*, *P. sarrufus*, *P. worcesteri*, and *Polypedates leucomystax*). Points represent museum vouchered specimens with georeferenced locality information overlaid on a topographic map of the Philippines.

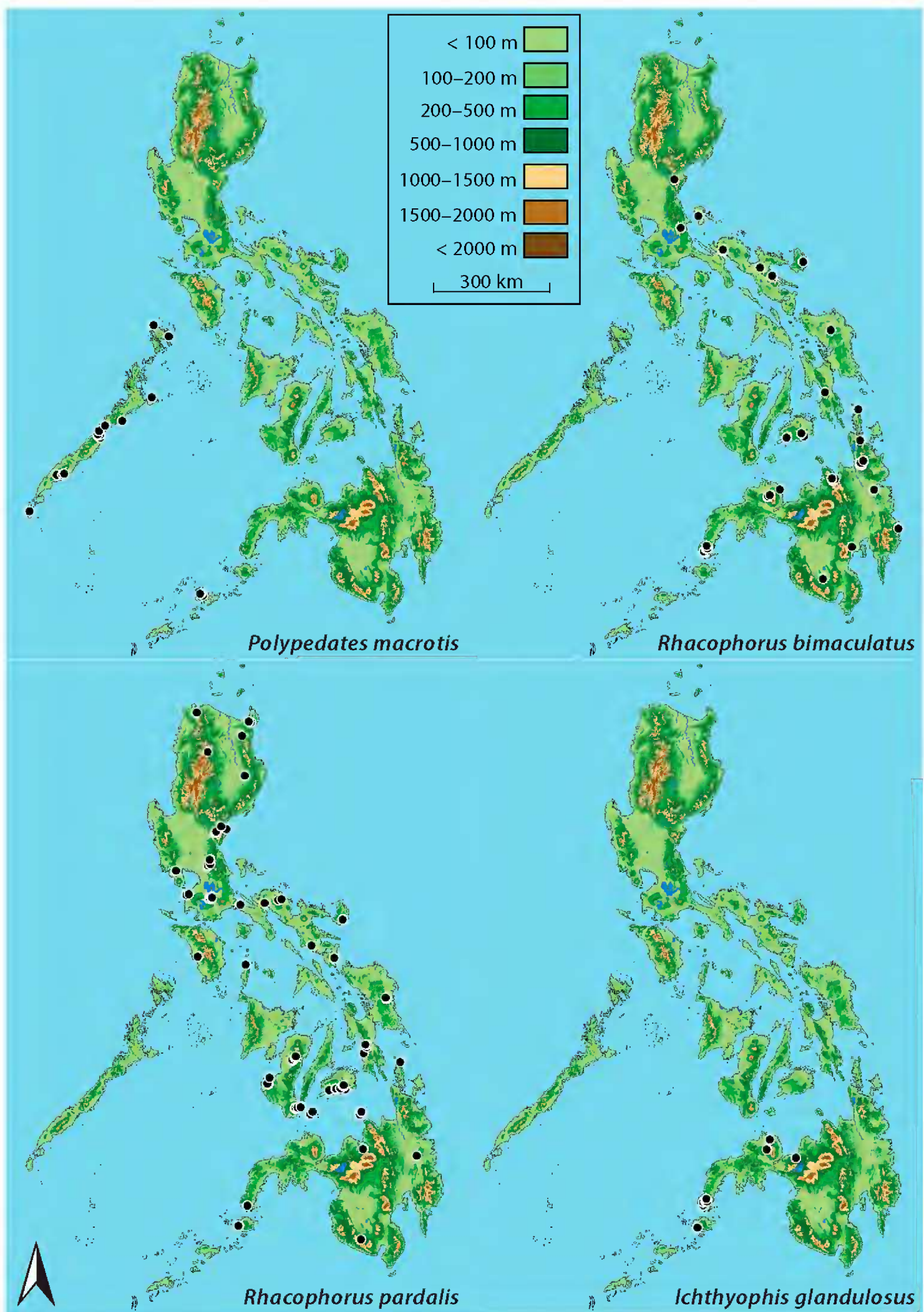


FIGURE 29. Geographic range maps for members of the families Rhacophoridae (*Polypedates macrotis*, *Rhacophorus bimaculatus*, and *R. pardalis*), and Ichthyophiidae (*Ichthyophis glandulosus*). Points represent museum vouchered specimens with georeferenced locality information overlaid on a topographic map of the Philippines.

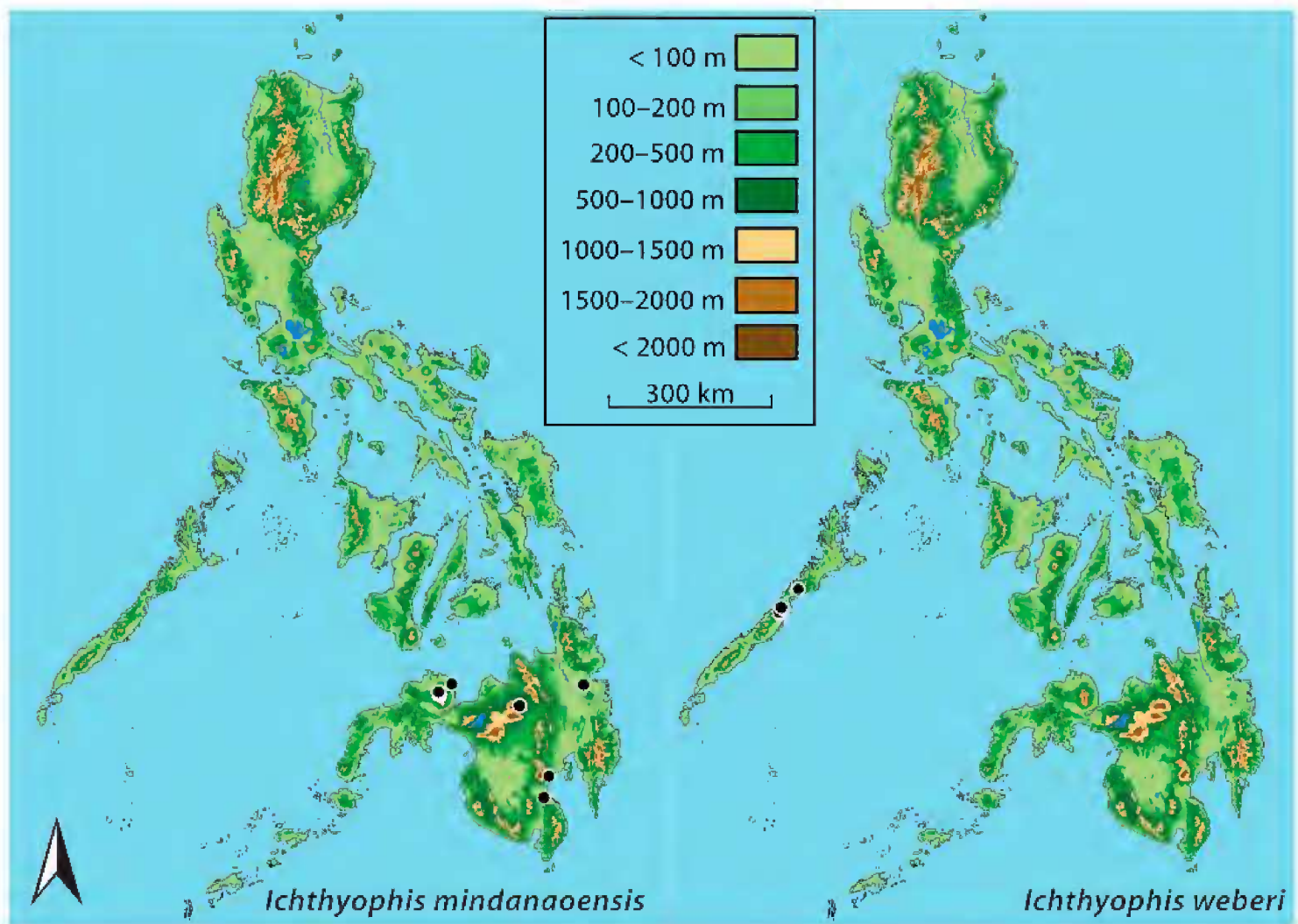


FIGURE 30. Geographic range maps for members of the family Ichthyophiidae (*Ichthyophis mindanaoensis* and *I. weberi*). Points represent museum vouchered specimens with georeferenced locality information overlaid on a topographic map of the Philippines.



FIGURE 31. Photographs in life of A) *Barbourula busuangensis* (Bombinatoridae), B) *Ansonia mcgregori* (Bufonidae), C) *Ansonia muelleri* (Bufonidae), D) *Ingerophrynus philippinus* (Bufonidae), E) *Pelophryne brevipes* (Bufonidae), F) *Pelophryne lighti* (Bufonidae), G) *Rhinella marina* (Bufonidae), and H) *Rhinella marina* (Bufonidae). Photographs copyright Rafe M. Brown (A), Janalee P. Caldwell (H), and Cameron D. Siler (B, C, D, E, F, G).



FIGURE 32. Photographs in life of A) *Platymantis banahao* (Ceratobatrachidae), B) *Platymantis bayani* (Ceratobatrachidae), C) *Platymantis biak* (Ceratobatrachidae), D) *Platymantis cagayanensis* (Ceratobatrachidae), E) *Platymantis cornutus* (Ceratobatrachidae), F) *Platymantis corrugatus* (Ceratobatrachidae), G) *Platymantis diesmosi* (Ceratobatrachidae), H) *Platymantis dorsalis* (Ceratobatrachidae). Photographs copyright Rafe M. Brown (A, D, E, G), Arvin C. Diesmos (C), and Cameron D. Siler (B, F, H).





FIGURE 33. Photographs in life of A) *Platymantis guentheri* (Ceratoatrachidae), B) *Platymantis hazelae* (Ceratoatrachidae), C) *Platymantis insulatus* (Ceratoatrachidae), D) *Platymantis isarog* (Ceratoatrachidae), E) *Platymantis lawtoni* (Ceratoatrachidae), F) *Platymantis levigatus* (Ceratoatrachidae), G) *Platymantis luzonensis* (Ceratoatrachidae), and H) *Platymantis montanus* (Ceratoatrachidae). Photographs copyright Rafe M. Brown (C, D, G, H), Jason Fernandez (E), and Cameron D. Siler (A, B, F).



FIGURE 34. Photographs in life of A) *Platymantis negrosensis* (Ceratobatrachidae), B) *Platymantis paengi* (Ceratobatrachidae), C) *Platymantis polillensis* (Ceratobatrachidae), D) *Platymantis pygmaeus* (Ceratobatrachidae), E) *Platymantis rabori* (Ceratobatrachidae), F) *Platymantis sierramadrensis* (Ceratobatrachidae), G) *Platymantis spelaeus* (Ceratobatrachidae), and H) *Platymantis subterrestris* (Ceratobatrachidae). Photographs copyright Rafe M. Brown (D, F, H) Cameron D. Siler (A, B, E, G), and Luke Welton (C).



FIGURE 35. Photographs in life of A) *Platymantis taylori* (Ceratobatrachidae), B) *Alcalus mariae* (Ceratobatrachidae), C) *Fejervarya moodiei* (Dicroglossidae), D) *Fejervarya vittigera* (Dicroglossidae), E) *Hoplobatrachus rugulosus* (Dicroglossidae), F) *Limnonectes acanthi* (Dicroglossidae), G) *Limnonectes leytensis* (Dicroglossidae), and H) *Limnonectes macrocephalus* (Dicroglossidae). Photographs copyright Rafe M. Brown (B, H), Arvin C. Diesmos (A, E), Cameron D. Siler (C, D, G), and Scott Travers (F).



FIGURE 36. Photographs in life of A) *Limnonectes magnus* (Dicroglossidae), B) *Limnonectes palavanensis* (Dicroglossidae), C) *Limnonectes parvus* (Dicroglossidae), D) *Limnonectes visayanus* (Dicroglossidae), E) *Limnonectes woodworthi* (Dicroglossidae), F) *Occidozyga diminutiva* (Dicroglossidae), G) *Occidozyga laevis* (Dicroglossidae), and H) *Leptobrachium lumadorum* (Megophryidae). Photographs copyright Rafe M. Brown (A, B, C, D, F) and Cameron D. Siler (E, G).

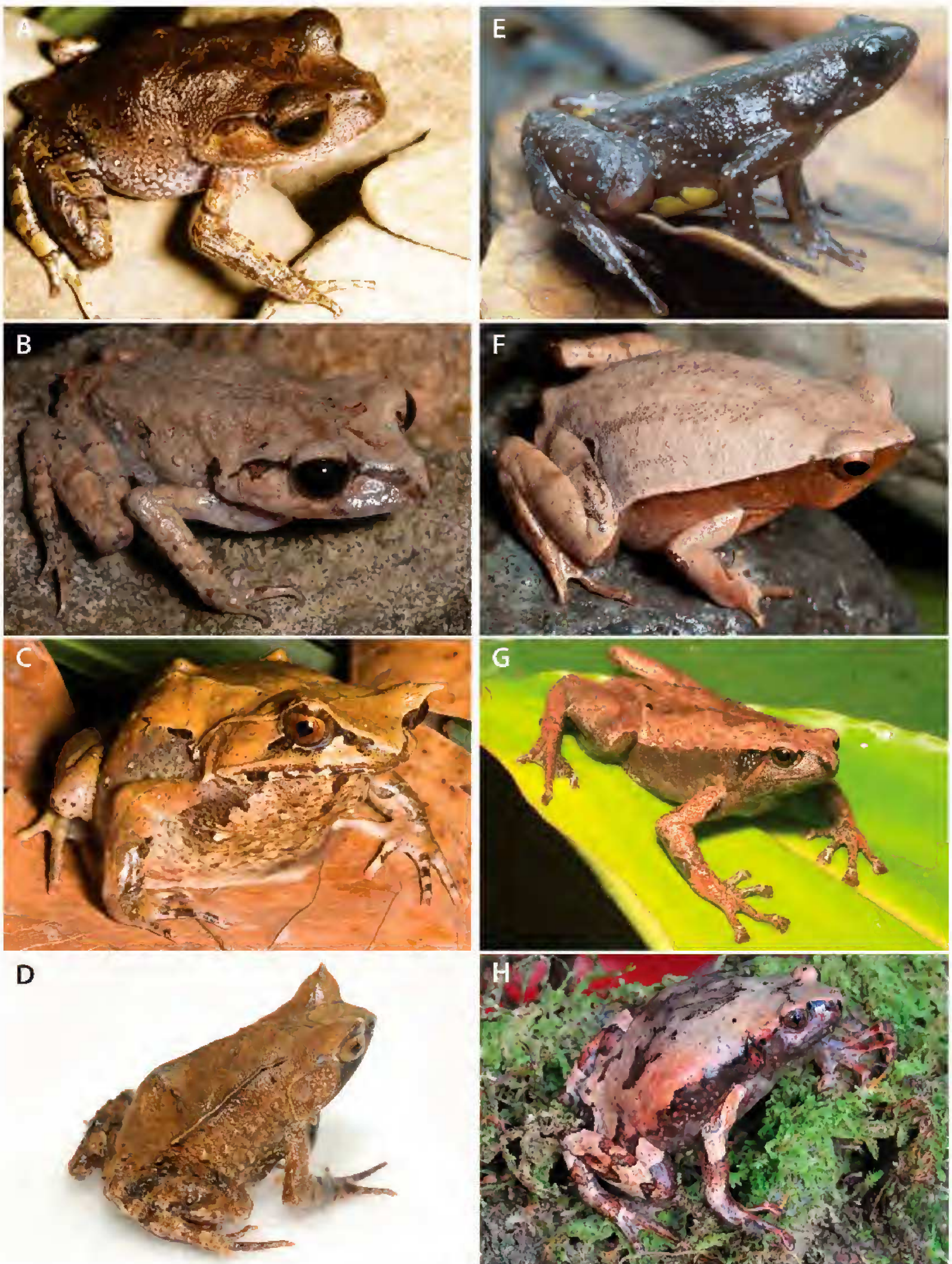


FIGURE 37. Photographs in life of A) *Leptobrachium mangyanorum* (Megophryidae), B) *Leptobrachium tagbanorum* (Megophryidae), C) *Megophrys ligayae* (Megophryidae), D) *Megophrys stejnegeri* (Megophryidae), E) *Chaperina fusca* (Microhylidae), F) *Kalophrynus sinensis* (Microhylidae), G) *Kaloula conjuncta* (Microhylidae), and H) *Kaloula kalingensis* (Microhylidae). Photographs copyright Rafe M. Brown (A, B, C, E, F), Arvin C. Diesmos (D), Cameron D. Siler (H), and Scott Travers (G).



FIGURE 38. Photographs in life of A) *Kaloula picta* (Microhylidae), B) *Kaloula pulchra* (Microhylidae), C) *Kaloula rigida* (Microhylidae), D) *Kaloula walteri* (Microhylidae), E) *Microhyla petrigena* (Microhylidae), F) *Oreophryne anulata* (Microhylidae), G) *Oreophryne nana* (Microhylidae), and H) *Hylarana erythraea* (Ranidae). Photographs copyright Rafe M. Brown (C, D, F), Arvin C. Diesmos (E), Cameron D. Siler (A, G, H), and Scott Travers (B).



FIGURE 39. Photographs in life of A) *Lithobates catesbeianus* (Ranidae), B) *Pulchrana granocula* (Ranidae), C) *Pulchrana mangyanum* (Ranidae), D) *Pulchrana moellendorffi* (Ranidae), E) *Pulchrana similis* (Ranidae), F) *Sanguirana albotuberculata* (Ranidae), G) *Sanguirana aurantipunctata* (Ranidae), and H) *Sanguirana everetti* (Ranidae). Photographs copyright Rafe M. Brown (D, G), Janalee P. Caldwell (A), and Cameron D. Siler (B, C, E, F, H).



FIGURE 40. Photographs in life of A) *Sanguirana igorota* (Ranidae), B) *Sanguirana luzonensis* (Ranidae), C) *Sanguirana sanguinea* (Ranidae), D) *Sanguirana tipanan* (Ranidae), E) *Staurois natator* (Ranidae), F) *Staurois nubilus* (Ranidae), G) *Kurixalus appendiculatus* (Rhacophoridae), and H) *Nyctixalus spinosus* (Rhacophoridae). Photographs copyright Rafe M. Brown (A, C, D, F) and Cameron D. Siler (B, E, G, H).





FIGURE 41. Photographs in life of A) *Nyctixalus spinosus* (Rhacophoridae), B) *Philautus acutirostris* (Rhacophoridae), C) *Philautus everetti* (Rhacophoridae), D) *Philautus leitensis* (Rhacophoridae), E) *Philautus longicrus* (Rhacophoridae), F) *Philautus poecilus* (Rhacophoridae), G) *Philautus surdus* (Rhacophoridae), and H) *Philautus worcesteri* (Rhacophoridae). Photographs copyright Rafe M. Brown (B, C, E, F, H) and Cameron D. Siler (A, D, G).



FIGURE 42. Photographs in life of A) *Polypedates leucomystax* (Rhacophoridae), B) *Polypedates macrotis* (Rhacophoridae), C) *Rhacophorus bimaculatus* (Rhacophoridae), D) *Rhacophorus pardalis* (Rhacophoridae), E) *Ichthyophis glandulosus* (Ichthyophiidae), and F) *Ichthyophis glandulosus* (Ichthyophiidae). Photographs copyright Rafe M. Brown (B, E, F) and Cameron D. Siler (A, C, D).

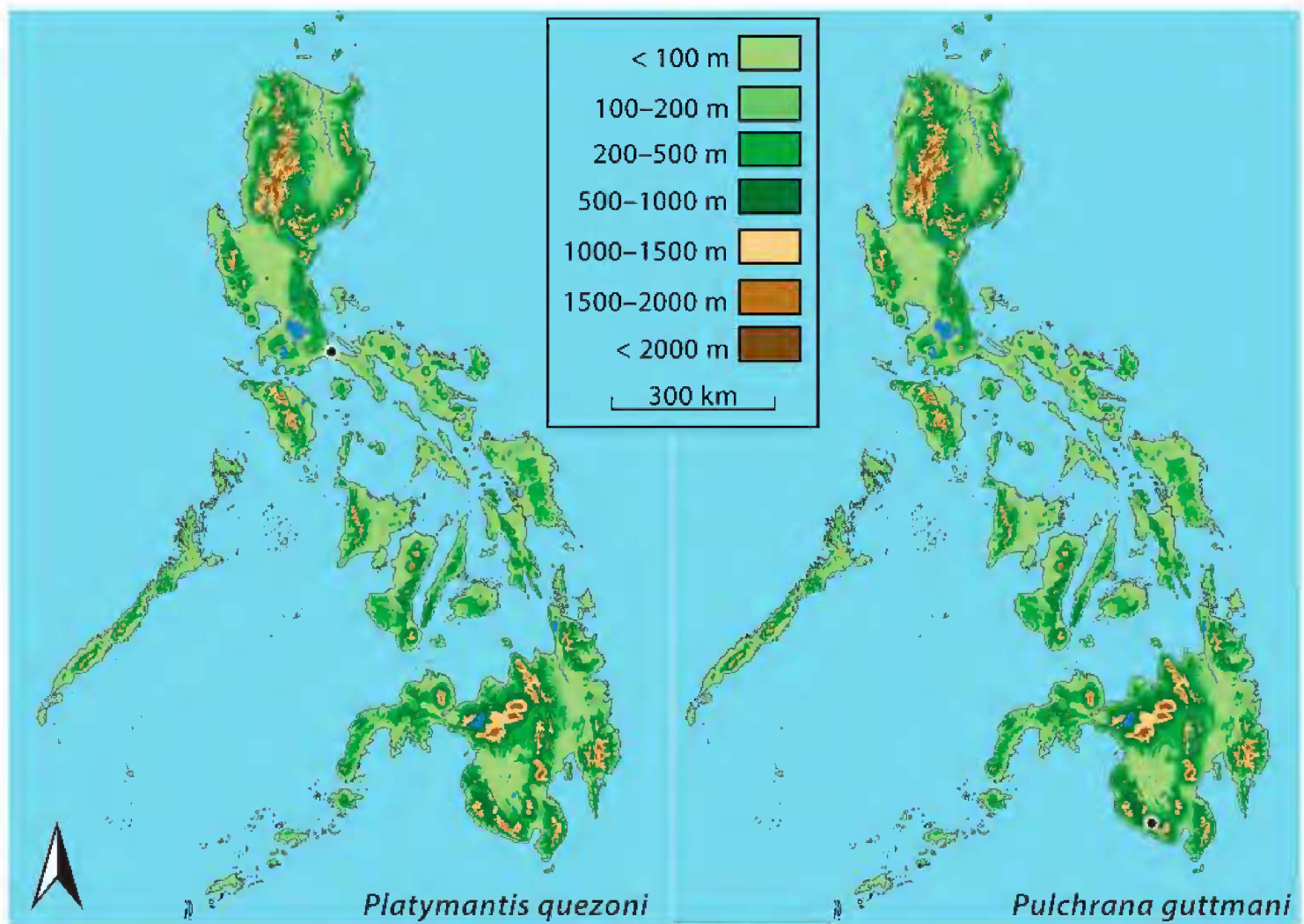


FIGURE 43. Geographic range maps for members of the families Ceratobatrachidae (*Platymantis quezoni*) and Ranidae (*Pulchrana guttmani*). Points represent museum vouchered specimens with georeferenced locality information overlaid on a topographic map of the Philippines.



FIGURE 44. Photograph in life of (A) *Platymantis quezoni* (Ceratobatrachidae). Photograph copyright Rafe M. Brown.